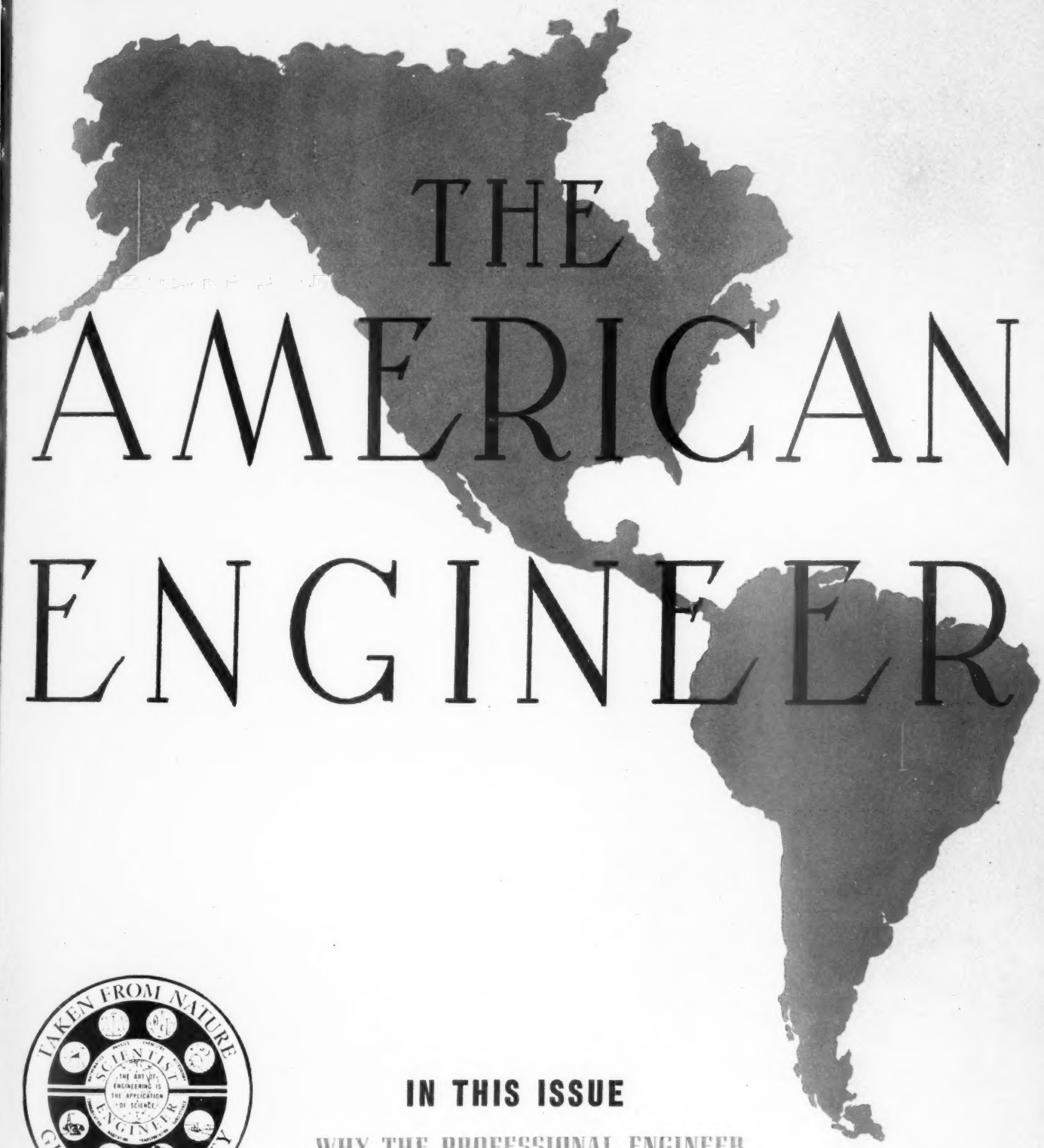
THE · NATIONAL · SOCIETY · OF · PROFESSIONAL · ENGINEERS

ENGINEERING
LIBRARY



THE AMERICAN ENGINEER

TAKEN FROM NATURE
SCIENTIST
THE ART OF ENGINEERING IS THE APPLICATION OF SCIENCE
ENGINEER
GIVEN TO SOCIETY

IN THIS ISSUE

WHY THE PROFESSIONAL ENGINEER

FEBRUARY · 1944

Albanene

REG. U. S. PAT. OFF.

the stabilized TRACING PAPER

☆**STABILIZED** to keep its toughness and transparency — that's Albanene Tracing Paper. Because it is treated with crystal-clear Albanite, a new synthetic solid developed in the K&E laboratories—Albanene will not oxidize, become brittle or lose transparency with age. Albanene's improved drawing surface takes ink or pencil fluently, erases with ease . . . Ask your K&E dealer.

TRADE MARK K+E

KEUFFEL & ESSER CO · *Est. 1867*

CHICAGO • **NEW YORK** • **HOBOKEN, N. J.** • MONTREAL
ST. LOUIS • SAN FRANCISCO • LOS ANGELES • DETROIT

THE AMERICAN ENGINEER

VOLUME 14, NUMBER 2 FEBRUARY, 1944

Published monthly in the interest of the American People and the Engineering Profession by the National Society of Professional Engineers

In This Issue –

PAGE

Officers—N.S.P.E.—Roster of State Societies 4

EDITORIAL—Post War Professional Qualifications 5

PAPERS AND REPORTS

Why The Professional Engineer 6
Collective Bargaining 9
Engineers-In-Training 13

ITEMS OF GENERAL INTEREST

Ohio Wins 15
Extension of Governmental Agencies 15
Unity Now 16
Decentralization of Government 16
Who Dares Reply 16
The Navy and Officer Candidates 17

STATE NEWS

California 18
Indiana 18
Minnesota 18
New Jersey 19
New York 19
Ohio 21
Pennsylvania 24
Washington 24
West Virginia 24

WHAT'S NEW 27

PROFESSIONAL DIRECTORY 32

Editorial, Advertising and Business Offices, 415 *Lexington Avenue, New York, N. Y.*

Arthur V. Sheridan, *Editor* Robert Hall Craig, *Associate Editor* Frederick H. Zurmuhlen, *Business Representative*

Change of address on Form 3578 should be sent to Society Office, National Press Building, Washington, D. C.

Re-entered as second-class matter March 11, 1942, at the post office at New York, N. Y., under the Act of March 3, 1879.

Copyright 1944—National Society of Professional Engineers.

Neither The American Engineer nor the National Society of Professional Engineers assumes any responsibility for statements or opinions expressed by contributors whose names identify the source of same.

Subscription Rates

$1.00 a year, in advance, to members of the National Society of Professional Engineers and its affiliated Societies, $2.00 a year, in advance, to non-members in U. S. A. and its possessions and Canada and Mexico. Single copies, 25c Foreign $4 per year.

THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Headquarters: National Press Building, Washington, D. C.

Vice-President
FREDERICK H. ZURMUHLEN
197 Clinton Ave.
Staten Island, N. Y.

President
HARRY E. NOLD
Lord Hall, O.S.U.
Columbus, Ohio

Vice-President
ROBERT COLTHARP
108 East Tenth Street
Austin, Tex.

Vice-President
JAMES W. CAREY
1264 Empire Building
Seattle, Wash.

Treasurer
LEO H. CLEARY
2726 Conn. Ave., N. W.
Wash., D. C.

Executive Secretary
EDWARD LARSON
937 National Press Building
Washington, D. C.

Vice-President
CLYDE A. WALB
2511 W. Taylor St.,
Ft. Wayne, Indiana

MEMBER STATE SOCIETIES—*Officers and Directors*

Member	President	Secretary	National Director
ARKANSAS	K. W. LEFEVER 303 Gazette Bldg. Little Rock, Ark.	V. B. BUCKLEY Court House Little Rock, Ark.	CHARLES S. CHRISTIAN 1620 W. 21st St. Little Rock, Arkansas
CONNECTICUT	ALEXANDER S. LYNCH 114 Chestnut Street West Haven, Conn.	ROBERT A. CASTRO 183 Brewery Street New Haven, Conn.	JOHN W. SHALLENBERGER 886 Main St. Bridgeport, Conn.
DELAWARE	RUSSELL D. ROGERS 3115 Van Buren Street Wilmington, Dela.	CARL C. STIMMEL R.D. No. 3 Wilmington, Dela.	HARRY S. STANTON 2011 Monroe Street Wilmington, Dela.
D. C.	JAMES J. BOWE 3814 8th Street, N. W. Washington, D. C.	HERBERT MANUCCIA Presidential Gardens G.W.C. 11 Alexandria, Va.	C. E. EDWARDS 1431 Longfellow St., N. W. Washington, D. C.
ILLINOIS	W. WAYNE WALLACE 33 W. Grand Ave. Chicago, Ill.	H. E. BABBITT 204 Engineering Hall Urbana, Ill.	ALEX VAN PRAAG 447 Standard Office Bldg. Decatur, Ill.
INDIANA	WITT W. HADLEY 3117 Guilford Ave. Indianapolis, Ind.	J. L. QUINN, JR., *Ex-Sec.* 1098 W. Michigan St. Indianapolis, Ind.	CARL E. VOGELGESANG 5218 Kenwood Ave. Indianapolis, Indiana
KENTUCKY	M. J. McGruder City Engineer Lexington, Ky.	C. S. CROUSE Univ. of Kentucky Lexington, Ky.	C. S. CROUSE Univ. of Kentucky Lexington, Ky.
MARYLAND	RUSSELL B. ALLEN 4610 Hartwick Rd. College Park, Md.	JAMES A. PRATT Box 355 Loch Raven, Md.	RUSSELL B. ALLEN 4610 Hartwick Rd. College Park, Md.
MASSACHUSETTS	ALVIN S. MANCIB 26 Wallace Street W. Somerville, Mass.	EDWARD C. BROWN 77 Summer Street Boston, Mass.	ALVIN S. MANCIB 26 Wallace Street W. Sommerville, Mass.
MINNESOTA	R. R. HERRMANN Northern States Power Co. Minneapolis, Minn.	S. L. STOLTE 819 Guardian Bldg. St. Paul, Minn.	WALTER H. WHEELER 802 Metropolitan Life Bldg. Minneapolis, Minn.
MISSOURI	BRUCE WILLIAMS P. O. Box 264 Joplin, Missouri	H. J. BRUEGGING P. O. Box 365 Jefferson City, Mo.	C. P. OWENS 1827 N. Weller Ave. Springfield, Mo.
NEW JERSEY	C. G. KRUEGER 85 Reypen Street Jersey City, N. J.	FREDERICK D. BRAUN 16 North Hillside Ave. Ventnor City, N. J.	RUSSELL S. WISE 50 Albion Street Passaic, N. J.
NEW YORK	JAMES F. FAIRMAN 1941 Grand Central Terminal New York, N. Y.	ERNEST F. FOX 1941 Grand Cent. Term. New York, N. Y.	CHARLES W. BURKE EDMUND A. DOLLARD LELAND R. POST PAUL H. REID 1941 Grand Central Terminal, N. Y.
OHIO	WALTER GRAF Municipal Building Lancaster, Ohio	LLOYD CHACEY 63 S. High St. Columbus, Ohio	H. E. NOLD Lord Hall, O.S.U. Columbus, Ohio
OKLAHOMA	A. O. WALKER Box 1594 Muskogee, Okla.	M. B. CUNNINGHAM 1620 N.W. 17th St. Okla. City, Okla	WM. R. WOOTEN City Engineer Tulsa, Okla.
PENNSYLVANIA	HALE SUTHERLAND Lehigh University Bethlehem, Pa.	RUSSELL S. CONRAD 29 S. 3rd St. Harrisburg, Pa.	ROBERT HALL CRAIG 222 N. 3rd Street Harrisburg, Pa.
PUERTO RICO	C. CALOR MOTA University of Puerto Rico Mayaguez, Puerto Rico	ANGEL SILVA, *Ex. Sec.* Dept. of the Interior Santurce, Puerto Rico	
RHODE ISLAND	DANIEL O. CARGILL Box 257, R.F.D. No. 2 Valley Falls, R. I.	JOSEPH WURAFTIC 118 Lorimer Avenue Providence, R. I.	JOSEPH D. GUILLEMETTE 53 Auburn Street Pawtucket, R. I.
TEXAS	T. B. WARDEN 702 Littlefield Bldg. Austin, Texas	R. S. GUINN P. O. Box 570 Austin, Texas	R. B. CRUISE P. O. Box 1422 Beaumont, Texas
VIRGINIA	C. GRADY CATES 417 Arlington Rd. Roanoke, Va.	C. G. MASSIE 4030 Fort Drive Lynchburg, Va.	J. FRANCIS SETTE 4701 Connecticut Ave., N. W. Washington, D. C.
WASHINGTON	L. J. WRIGHT Court House Mount Vernon, Washington	MERLIN E. CUSTER 1331 3rd Ave. Bldg. Seattle, Wash.	JOSEPH E. WICKSTROM 761 Empire Building Seattle, Wash.
WEST VIRGINIA	W. S. DOWNS West Virginia University Morgantown, West Virginia	ROSS B. JOHNSTON, *Ex. Sec.* Kanawha Hotel Charleston, W. Va.	T. J. JACKSON 1203 Augusta St. Bluefield, West Virginia

Kindly report any errors or omissions to the Editor.

Post War Professional Qualifications

IS THERE JUSTIFICATION FOR CONCERN

Over The Possibility Of Lowered Standards

Resulting From Aspirations Of Veterans

In various quarters, especially scholastic institutions and certain registration boards, there appears to be considerable apprehension concerning the qualification of professional engineers in the years immediately following the return of peace. There are some who fear that standards will be materially lowered and the profession flooded with persons lacking the educational credits generally necessary for graduation from recognized schools of engineering and the subsequent training and experience required for admission to professional status.

Many thousands of young men will have completed war training courses varying in length from six months to three years. Much of the study pursued will have been for the express purpose of performing a highly specialized task. The general background of engineering education, the training in the sciences upon which the practice of engineering is based, and, the application of engineering theory demanded as evidence of post graduate preparation will be missing in many, if not most, cases of technically trained youths who have served in the uniform of their country during this period of its travail.

On the other hand many of these boys will have made those sacrifices and performed those deeds but for which there might well have been neither schools nor registration boards to worry about. Furthermore, such boys will have lived much more than some of their elders who have not experienced that maturing process that accompanies the battlefield and the bivouac. Judgment, understanding, nobility of character and respect for discipline are developed far more rapidly in the camp than on the campus or in the classroom. Again the courses pursued under military regulation are far more intensive than those of normal college life and much more ground is covered by the boy in uniform than by the civilian during similar periods of time. Neither justice nor public opinion will tolerate any unreasonable barriers to opportunity for those who have pursued the most stringent of all curricula and who have served an apprenticeship in the most demanding of all callings — War.

While the above is undebatable the question of entrusting any person with professional status must be regarded in the light of its effect upon society as well as of the ability of the individual to assume responsibility. Where life, health and property are at stake, the practitioner of a profession must be thoroughly investigated as to qualification. Neither war nor the training incident to its conduct will of itself suffice for professional status. The person who seeks legal recognition as a doctor or as a professional engineer must demonstrate that he possesses the knowledge and skill indispensable to the practice of such a calling. Thus public safety must be weighed along with public indebtedness and appreciation in the resolution of what to some appears to be a post-war problem.

To this writer there has been no problem in the past nor will there be one in the future if justice and common sense prevail. Qualification is not synonymous with, nor the equivalent of, any method or road to professional status as an engineer. It is the end and not the means that is of importance. Establish criteria that are based upon demonstration and this will soon become apparent.

No man, including him who has served his country, can object to meeting universal or legal standards, regardless of how high they may be set, as measures of public safety; but he will object to being disbarred without an opportunity to prove himself because of some unwarranted barriers or presumed lack of qualification. When, where or how he has acquired his knowledge, his talent or his skill is not vital to the public interest provided he can demonstrate his qualifications. Neither he nor the public will permit his elimination solely on the ground of unorthodox or informal scholastic preparation or debatable type of experience. Genius and ability among service men, as elsewhere, should never be stifled or discouraged. Society owes too much to the talent of unheralded scientists and scholars.

As engineers, as educators and as citizens we might as well recognize the propriety, the justice and the inevitability of legislation favorable to veterans. In anticipation of such legislation would it not be a matter of self-interest as well as good planning for professional engineers and registration boards to move at once for the formulation of definite, comprehensive and carefully thought out examinations for candidates for registration in all states?

Let us cease worrying about how we are going to take care of the anticipated rush to the ranks of engineering after the war. Rather let us study and develop the technique of adequate means for qualifying those who seek admission to the profession. The application of a real and effective examination process will eliminate the unfit and the perplexing problems presently being conjured up will automatically solve themselves. The public and the profession will be protected. The service man will have the right to seek his objective without encountering unfair restrictions. If he proves himself through the medium of comprehensive and severe examination he will be entitled to professional status. If he fails to qualify through such examination he will not feel that he has been discriminated against. The right to sub-professional and technological employment will still be his to pursue. Courses, credits, time and personal evaluation of experience are not sufficient grounds upon which to qualify one for, and disbar another from, the right to prove competency. Admission to examination is the least that a veteran is entitled to. If the examination is adequate, the results will be the best possible means of eliminating the unqualified. A week, not a day, should be allotted to the examination of candidates. All applicants, service men or otherwise, should be required to qualify through examination.

Where laws now permit, registration boards should improve and strengthen the examination process. Where statutes are insufficient, steps should be taken to make the examination procedure mandatory and adequate. This accomplished, schools could turn to education and greybeards could relax their concern over the inundation of the profession by streams of unqualified youth. In the establishment of qualifications, the engineer should ever be prompted by the goal of Excelsior; but Verboten should never be permitted to mar the hand that points the way to professional status for a veteran.

WHY THE PROFESSIONAL ENGINEER

AN AWAKENED PROFESSIONAL CONSCIOUSNESS

FINDS BOTH JUSTIFICATION AND NEED

FOR SELF APPRECIATION AND PUBLIC CONCERN

WAR HAS NOT LESSENED DETERMINATION

AN APPEAL TO ENGINEERS

By J. E. WICKSTROM — Director N. S. P. E.

J. E. WICKSTROM
Director N.S.P.E.

The author of this article, who has practiced engineering in a variety of fields and in various parts of North America, is a native of Kansas. He was the first President of the Washington Society of Professional Engineers and is presently its National Director and Secretary as well as Editor of the Washington Engineer.

The caption briefs the gist of the article which is an appeal for interest in the profession and for self appraisal upon the part of the engineer.

In approaching a discussion of professional consciousness, may I suggest the following meanings for the terms of the subject. "Consciousness is the power of self knowledge." A profession is, "An occupation that properly involves a liberal education, or its equivalent, and is mental rather than manual labor." We thus take "Professional Consciousness" to mean: A knowledge on the part of its members that engineering is a profession and that its practitioners have rights, privileges, and prerogatives that are denied non-members, and that they are likewise charged with duties, obligations, and responsibilities such as a profession entails.

For the most part, the public is willing to accept the engineer at his own estimate of himself. It is therefore urgent that he stand up and claim that to which his deeds entitle him. At first thought, it may seem unnecessary to remind him that he has rights, as a professional man; yet one is not sure he believes it. In answer to the question, "Are you an engineer?", one hears frequently, especially during the last few years, "I try to be one", "I used to be one", "I hope to be one someday", "I suppose you might call me an engineer". This attitude is partly due to a lack of definition and largely due to the precarious position of the profession during these days of stress.

From the very nature of the calling many engineers have to be on the outposts of construction; they are charged with new inventions and new processes. When the economic going gets bad, their activities are curtailed to a minimum. The pioneer must halt at intervals and let the crowd catch up. He, or his followers, must also consolidate the gains already made. During these days we are realizing the import of consolidating and of occupying conquered territory, as a part of the work of the profession.

What is an engineer? No doubt all of us have heard one or more of the standard definitions of engineering and have always felt there was something lacking. When we view the range of activity of those commonly called engineers, we can see why there is uncertainty about an all-inclusive definition. That range is from:

The rodman to the Chief Engineer
The electrician to Steinmetz
The sales engineer to the Dean of Engineering
The fireman of the boiler to the Designer of the turbine
The inspector to the engineer executive.
The range of compensation is from fifteen dollars a week to one hundred thousand dollars per year. And, too often, the popular idea of the engineer is a man in khaki trousers peeping through the eye piece of a transit.

Besides the difficulty we have in our own ranks, we are flooded with interlopers. They seek to appropriate our designation and use it with every conceivable combination of activity. We see the "Sanitary Engineer" with a plumber's wrench in his hand, a "Household Engineer" trying to sell the housewife a vacuum cleaner. We see the "Creamery Engineer" making butter, and "Industrial Engineers" trying to hide behind a title rather than to use industry to get work. Is there not some reason for the public to question the genuineness of any kind of an engineer?

We have a right to object to the interloper who appropriates our title and uses it for his own profit. Fortunately, we have a way to correct this evil if we will

but avail ourselves of it. When we see the tenacity with which some of them hold onto the title, we wonder why those who are entitled to call themselves engineers do not fight harder to retain their title and to protect it from desecration

"What thou inheriteth from thy forebearers;"
"Earn it to possess it! — — "

Surely there is a public esteem, or there would be no appropriation.

With this introduction, we may well ask: Is it possible to develop a professional consciousness? The answer is: "Yes, a thousand times, and again Yes." You may think that I am sanguine, or optimistic, but I will rest our case on our accomplishments of the last three score and ten years.

1. We have our educational background.
2. We have developed a literature and a tradition.
3. We have an achievement beyond the dreams of our forefathers
4. We have a future filled with responsibility.
5. We are learning how to protect our good name.

Education

In our opening definitions of a profession, an educational requirement is suggested. The requirement is not ours but it is the experience of mankind. An educational background is needed to place any new profession alongside those which have been recognized for centuries.

During the last half of the nineteenth century, engineering began to be recognized as a learned profession. It had to fight its way into the educational institutions of the land. Had it not been for the fact that schools were established for the teaching of engineering alone, the battle might have lasted longer. Those who were clothed with authority and steeped in a knowledge of the classics thought there was no place in the educational plan for subjects which were useful or savored of the market place. They taught those things which had become sacred by the dust of ages and looked with disfavor on all subjects that upset their sacred traditions.

Science had to fight its way into the curriculum, and applied science had to wage a pitched battle. Her opponents had forgotten that the classics were first introduced because of their utility. Latin and Greek were first taught because these languages contained the storehouses of knowledge. The languages were the tools to attainment. When English became the language of Science and Literature, Latin and Greek became secondary. They were still carried as cultural subjects and as a mark of distinction. As soon as they ceased to be useful they became cultural and have persisted because of their ancient values and their minor usefulness in learning English. I do not care to enter into a controversy with the linguists, but will quote the mighty Johnson who said of the greatest exponent of English, that "He knew little Latin and less Greek." When Engineering subjects cease to be useful, they will become cultural, even academic, and then our writings will be added to the Classics.

Not only did Engineering Education have to fight against the educator, but it had to fight against the members of the profession. The "old timer" looked upon the graduate with misgiving if not alarm. He said that judgment and common sense could not be taught. Some were tempted to say that the theoretical engineer was dangerous. This attitude was not wholly gone at the turn of the century. By willing toil and real statesmanship the leaders of Engineering education have achieved recognition. There is hardly a campus in the land where engineering is taught that there is not a wholesome attitude among the student body concerning the conduct of the engineering course. The student who enters the course and performs his work with excellence, or even only well, has the respect of all. Engineering is no longer an interloper in the educational field. By the energy of its votaries, it has convinced educators that it is a profession of learning, and, at the same time, a profession of extreme usefulness. The old ideas have been revolutionized and a useful thing has been accepted, though it does not yet boast of cultural values. There are some of us, though, who believe that useful things may have more value as cultural than many of the things that are covered by the dusts of centuries. Because some form of knowledge was valuable a century ago is not proof positive that it has a cultural value today.

Much has to be done to make engineering education meet all the needs of a growing profession; but enough has already been done to show a skeptical world that we have something to teach and that we know how to teach it. We may not know all the facts of modern education, but we know the things a student needs to know, and we have teachers who know how to impart that knowledge. We may, therefore, conclude will that have an educational background in keeping with a high calling known as a profession, and we may further state with confidence that the education in the profession will develop with the needs of the profession.

Literature and Tradition

There need not be a connection between literature and tradition, but in most cases, the one follows the other. In Engineering, our literature is based on experimentation and practice rather than tradition, but we should not overlook our heritage from the generations that have gone before.

"With voice of the century will be hushed,
and dear the generation that knew thee."

It may be that the Shakespeare, or the Milton, Keats, or Shelley of engineering has yet to come on the scene. It may be that we will wait for many years for his appearance but surely we have had some of the minor scribes in realms of literature, and no doubt we have had authors and editors who are contemporary if not lasting. The day may not be far distant when a new singer will come, and his epic will be the story of emancipation from drudgery, the annihilation of distance, or the adjustment of production to human needs. Verily — a Pilgrim's Progress.

The very nature of our story has been such that we have enshrouded it in mystery. We have told it in a language that could only be understood by the initiated, and appreciated by those who spoke *our* language. To get a larger recognition, we must translate our achieve-

Then it will become universal. Though we have "lighted our candle and placed it under a bushel", it has shown brightly there. Every day our world is growing larger and our achievements are becoming better known.

Only fifty years ago we had no libraries of engineering. A few books were on the shelves but not enough to form a real background of education. Today practically every ments into the language of the street, the language of the market place, and the language of the public schools. phase of engineering has its magazines and its books. Some are hastily prepared and will die with their producers, but others will live to serve the coming generations. One dare not list either books or magazines that will last, lest he become a poor prophet, or commit the offense of leaving out some greater title than any that has been included. Should one pause for a moment, he could name ten great engineering books that have marked a place for themselves for many years to come. If he paused for a moment longer he could name ten that have helped him to his knowledge of the profession and will always be counted great. If we name the ten, we will place ourselves open to the darts of the critics; therefore, let us content ourselves by naming one to give our idea of engineering literature — "Wellington's "Economic Theory of Railway Location". It is probably lacking in some of the literary merit of contemporary authors, but it is a monumental work in its field. Those who have followed Wellington have thought it necessary to name him as their prophet and sage to give them standing as wise men. He worked without stint or selfishness, and his thoughts live after him. Our lore takes us back to the shadows of the Pyramids, the canals of the Tigris and Euphrates Valleys, the Chinese Wall, the Taj Mahal, the water supplies of the Holy City and the City of the Seven Hills, the roads of Carthage and Rome, the Acropolis, the Cathedrals of Europe, and the bridges of France and England. To mention our long history and tradition is to make us take pride in the long chain of accomplishments and fire the imagination to future achievements.

Achievements

When we look about us we do not know where to begin. Years ago I listed what I considered the seven wonders of the modern world. Each time I study this list I want to make additions enlarging it to fourteen wonders of this today's world rather than seven. You may agree with me on some of the wonders, but I am sure your list will include many achievements that I have neglected. I name seven achievements of the last fifty years: 1 Panama Canal; 2 George Washington Bridge; 3 Power Development at Niagara Falls; 4 Telephone and Radio; 5 Railway System of United States; 6 The Automobile; 7 The Aeroplane.

When the first white discovered and crossed the Isthmus of Panama, he dreamed a dream of a canal connecting the two oceans. For 300 years this was the dream of the seafaring world. It could not come true until machinery was developed and health could be protected. The Panama Canal was practically impossible of construction during the 19th century. It was easily constructed in the 20th. Engineering Science had reached a point where power was available and sanitation possible.

The George Washington Bridge is mentioned not so much because of its magnitude as for the reason that it embodies the history of bridge engineering. In its makeup will be found the first simple span used by primitive man, and also the latest ingenious developments in the structural field. From the foot log to the George Washington Bridge is a long road of achievement, crowded by a span of 3500 feet of modern steel.

The automobile has revolutionized transportation. Thirty years ago the railways had the transportation business to themselves. Today they are in real competition with the highway vehicle. We often wonder what the history of transportation would have been during the last 100 years if the internal combustion engine had been developed before the steam locomotive was adopted in railway transportation. After 75 years of railway building, the internal combustion engine was applied to highway transportation and caused a real revolution. Had the automobile been developed in the year 1800, it might have changed the whole course of transportation. The making of an automobile is surely one of the seven wonders of the engineering world

The machine which embodies power and speed has been so designed that anyone with ordinary intelligence may operate it, but the machinery used in its manufacture is elaborate and, in many cases, very complicated. To make mass production of the automobile, required the design and manufacture of new machinery, new plants and new processes. The designing engineer has solved a thousand and one problems and is ready to solve more. This product is the most convenient, most mobile, and the most popular device yet conceived for the annihilation of distance. Other machines may be developed that will compare with the automobile in cost of individual units, or in the number of units placed on the market; but it is probable that the industrial world will wait many generations before an industry of equal magnitude will be developed in so short a time.

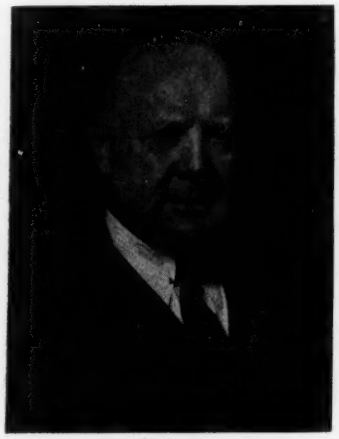
Of equal importance and the product of similar genius is the "Twin Giant" of this generation, the highway construction industry. The highways and the motor vehicle have broken down provincialism, have brought all sections of the country close together and have made north, east, south and west into one great whole rather than separate portions of a vast empire.

Let me enumerate but one more achievement. From the earliest recorded times, men have longed to fly. Traditions from the remotest antiquity tell of this aspiration. The twentieth century saw its achievement. Many remember the thrill of 1903 when the Wright Brothers made their first flight. We experienced that thrill over again, when we stood at Chicago about 10 years ago, when De LaCierva landed his autogyro in Soldiers' Field. In this newest achievement in transportation the Engineer has builded well. He has produced a vehicle of efficiency and a thing of beauty

(*Continued on Page* 26)

COLLECTIVE BARGAINING
SPECIAL COMMITTEE of METROPOLITAN SECTION
LARGEST UNIT OF AMERICAN SOCIETY OF CIVIL ENGINEERS
URGES BOARD OF DIRECTION TO RECONSIDER
IN UNANIMOUS REPORT

Presented By ARTHUR A. JOHNSON, *Chairman*



ARTHUR A. JOHNSON
A.S.C.E.

At a meeting held on January 6, 1944, the Special Committee on Employment and Collective Bargaining appointed by President Huie of the Metropolitan Section of the American Society of Civil Engineers presented its report and in so doing expressed strong opposition to the proposals of the Board of Direction of A.S.C.E. which sought to place the latter in direct competition with labor unions. The report and its appendix speak for themselves.

January 6, 1944

To The Board of Directors of the Metropolitan Section
American Society of Civil Engineers
Gentlemen:

Under date of October 22nd the Local Section of our Society were advised by Secretary Seabury of the action taken by the Board of Direction at its meeting in Atlanta, Georgia, on October 11th in connection with employment conditions. This included the recommendation of the Board that each Local Section amend its constitution and take such other steps as might be necessary to set up, in each section, a Committee on Employment Conditions which could function, when and if required, as a collective bargaining agency for both members of the Society and professional engineers generally.

This proposal was discussed at length at a special meeting of the Board of Directors held on November 9th and a special committee was appointed by President Huie with the approval of the Board to review these proposals and report to the Board. This special committee begs to submit the following report

1. We are unanimously opposed, and we believe the vast majority of profession engineers are also opposed, to the adoption by the American Society of Civil Engineers of the methods and practices of labor unions. It seems unnecessary to point out that collective bargaining, as proposed by the Society, with its inevitable requirements of the closed shop and of the strike, is completely at variance with past standards of professional practice and with the aims, ideals and viewpoint of the professional engineer.

Collective bargaining, or to use the older term, "unionism," cannot be reconciled with professional status. In his presidential address of July 1938, Henry E. Riggs answered that question thus:

"The true answer is that Engineering is a profession and not a trade. The labor union or trade union does not solve the engineer's problems, and he has no rightful place in the unions because his professional obligation makes him the arbitrator or umpire between the owner and builder, or the public and the contractor on public works. . . . The obligation is just as binding on the engineer employee of the railroad, power company, city, state or manufacturing plant as it is on the consulting engineer."

While we, thus, recognize the critical situation which has developed in recent years in sub-professional and even, in some cases, in professional engineering employment, we are convinced that a national professional society such as the American Society of Civil Engineers should not attempt to combat such trends by adoptng completely unprofessional practices. We must rather seek, through legislative and similar channels, to remedy the conditions which lead to such abuses and to solve these problems on a proper professional basis and in accord with reasonable professional standards and ethics.

2. Recognizing, however, that constructive action is imperative, we recommend that the Metropolitan Section establish an active and dynamic standing Committee on Employment Conditions to study the local employment situation recommend to the Board of Directors suitable action when necessary or desirable, and to be ready at all times to act, either on their own initiative or upon the request of any employer or employee in securing, through proper professional channels, such as conference and arbitration, the improvement of conditions and the adjustment of specific differences in the employment field.

We furthermore urge that the Society, through a similar general committee, consider such modifications of or additions to our code of practice and ethics as will tend to enforce the acceptance of such decisions by employer members of our Society. Such a Committee should not, however, be given any authority to organize engineering employees or to act as collective bargaining agency of the labor union type

3. We also believe that steps should immediately be taken to correct the present chaotic and confusing situation arising from the misinterpretation and misapplication of the provisons of the Wagner Act. It is clear that this act, while not intended to force the unionization of profession men, has been and is now being used to force professional engineers to join union groups affiliated with labor organizations. This situation, in the interest of all professional men, must be corrected by suitable legislation.

In order to give these conclusions force and effect, your committee recommends the adoption by the Board of Directors of the following resolutions.

Resolved: 1. That the Metropolitan Section of the American Society of Civil Engineers approve the recommendation of the Board of Direction of the Society that a standing Committee on Employment Condtions be established in the Metropolitan Section, but that the duties and authority of this committee be limited, as provided in the proposed amendment to our By-Laws (See Appendix A), to such activivties and practices as are thoroughly compatible with professional standards, ethics and ideals. Specifically, no authority to undertake any organization along labor union lines or to act as a collective bargaining agency for professional engineers generally is to be included in these duties and responsibilities

Resolved: 2. That the Board of Direction of the Society be urged to establish a similar general Committee on Employment Conditions which shall, among other suitable duties, study and suggest possible modification of our Code of Professional Practice and Ethics which shall make adequate provision for the fair and reasonable treatment of employees by employer-engineers, and will aid in securing recognition among such employers of the local Committees on Employment Conditions, and shall, in general, endeavor to make clear to senior engineers their obligation to counsel, aid and advise the younger members of our profession, particularly during the sub-professional, apprenticeship period of their careers.

Resolved: 3. That the Board of Direction of the Society be requested to take immediate steps to secure the clear recognition by specific legislative action of the position and importance of the professions and professional men in American life, to the end that professional men shall not be subjected to existing labor laws, or similar labor laws whch may be enacted, and shall be freed from the threat of domination and control by labor organizations.

(In this connection we believe that the definition of the professional engineer set forth in the Report of the Committee on Employment Conditions of the Society dated October 2, 1943, is unnecessarily complicated and involved, and is impossible of application. We call attention to the fact that the professional engineer, as well as the architect, lawyer and medical expert, has been clearly defined by legislative action in practically every state of the Union. Only those engineers ((and similarly architects, lawyers and medical men)) are allowed to undertake professional practice who hold a license as professional engineers. Clearly this simple distinction is the accepted and legal definition of the professional engineer.)

Resolved: 4. In view of the foregoing proposals and resolutions, the Metropolitan Section of the American Society of Civil Engineers respectfully requests that the Board of Direction of the Society reconsider the action taken at its last meeting held in Atlanta, Georgia, on October 11th and make the necessary modifications and adjustments required to meet these suggestions of the Metropolitan Section, suggestions which are in accord with professional standards and ideals, can be made effectivve in meeting all reasonable needs and requirements of our membership, and will, we believe, secure wide support throughout our Society.

Respectfully submitted,
James K. Finch, D. B. Steinman
W. F. Scantelbury, H. D. Winsor
Arthur A. Johnson, Chairman

NOTE: Your Committee has attached to this report, in the form of an Appendix (B), some additional facts and observations which have developed in its discussions of this problem, and have influenced the Committee in its formulation of the above conclusions and recommendations.

Appendix A

Proposed amendment to the By-Laws of the Metropolitan Section to provide for a standing Committee on Employment Conditions

"There shall be a standing Committee on Employment Conditions, the duties of which shall be to keep informed, through conference and correspondence with the general committee of the same name of the Society, with the conditions of engineering employment throughout the country and, in particular, with current conditions in the New York Metropolitan Area, and especially with legislative, civil service and other laws and regulations affecting the economic status of the engineer. This committee shall report to the Board of Directors, including in such report or reports, recommendatons for such group action as may be found desirable in setting reasonable minimum salary standards and conditions of employment for junior engineers or as are believed desirable for the improvement of employment conditions in general."

The Committee may also be prepared to act in an advisory capacity or as arbitrator in any disputes arising between employers and employees, whether said parties are or are not members of our Society, either at the request of the employer or the employees, or, where it believes its services will be of value in avoiding misunderstanding and eliminating abuses, or on its own iniative. In all such cases, the committee will endeavor to secure mutual understanding between the parties involved, and a fair, equitable and reasonable adjustment of differences in accord with professional standards of conduct, ethics and relationships. In no case shall the committee give encouragement or aid in *organizing* employees, or give its sanction to strikes or walk-outs. On the contrary, it may refuse to act during the period when such unprofessional practices are in effect. The Committee shall, however, be free to seek professional and public support and recognition of its activities and decisions through dignified and proper channels of publicity. It is also authorized to cooperate with other professional employment groups and to seek legal aid and counsel when such advice is deemed desirable.

Appendix B

Some of the additional facts and observations on which your Committee based the conclusions and recommendations of this report are here noted for the information of the Board.

1. The methods and practices of organized labor are incompatible with professional standards, ethics and ideals.

It seems, as we have noted, unnecessary to justify this statement. The methods of coercion, the application of economic pressure through strikes and walk-outs, and the use of picketing and force, common to labor union activities, are clearly completely at variance not only with professional standards and practice, but with the fundamental engineering method and viewpoint, which seeks a solution to all problems through unbiased and honest fact finding, mutual understanding, and an appeal to arbitration and reason.

The professional engineer has, as has also the medical expert, been entrusted by his fellow citizens with the control and development of technical science and art and their use and application in meeting the material needs and wants of our people. The development of technical skill and competence is the most important single factor in determinin gnot only the material aspects of the world in which we live but technological change has and does affect or condition our social and economic life and thought, and, in all probability, will be basic to the maintenance of our national leadership in the advancement of civilization. The professional engineer thus occupies a position of trust. His services should not be bargained for and bartered in the interest of special groups and through strikes and other pressure methods such as are too often characteristic of labor union practice.

It is clearly the duty of our Society, therefore, to discourage the use of such unprofessional and destructive practices, not adopt and use them. It is, in fact, our responsibility to make every effort to secure a wider adoption and application of engineering methods in American life, to encourage the settlement of all problems by unbiased attention to and analysis of all pertinent facts, through friendly conference and mutual respect and understanding in accordance with professional standards and ideals.

2. The Legal Situation

This has been very fully reviewed in the Society's Manual of Engineering Practice No. 26 under the title "The Engineer and Collective Bargaining." It is clear from this report that while the National Labor Relations Act does not *force* any group of employees to organize for collective bargaining, no group not adequate representative and so organized can secure the support of this Act in bargaining collectively. It is also clear that the National Labor Relations Board, notably in the Shell Development Co. case, recognized this Act as permitting professional employees to organize, thereby including professional men in the same group with labor. The Act is thus, in effect, a National "Employment" Relations Act rather than a limited piece of labor legislation.

Under this Act, both CIO and AFL agencies have proceeded to organize sub-professional workers, and, in some cases, to extend these activities so as to force professional employees to join these groups.

Your Committee does not deny that this situation and that "something has to be done about it."

The Board of Direction of the Society has proposed, however, not to make any attempt to remedy this misapplication and abuse of an Act designed to protect and advance the economic status of the American laboring man, but plans to accept this situation and to attempt to meet it by adopting labor union organization and practices.

In our opinion not only is this proposal apt to disrupt and destroy our Society, and is doomed to failure from the start, but it is not either a proper solution of this problem, wth due regard to our professional standards and objectives, or the only available solution.

It should be noted that the report adopted by the Board of the Society is so drafted as to include not only members but also non-members of the Society in these bargaining groups. It seems clearly possible that members may very probably be outnumbered in the proposed bargaining operations by non-members and control of these activities may thus come to be directed by non-members of our Society

It also seems clear that a single relatively small professional society attempting to enter the field of collective bargaining in competition with great national labor organizations is, as we have said, doomed to failure at the start. We are unfamiliar with the technique of labor organization and we have no skilled organizers to direct such activities

Your Committee has not explored in detail the various difficult and confusing problems which are involved in connection with the organizaton of our Society for collective bargaining. Suffice to say they will be most difficult of solution and that many dangers and pit-falls are involved. There is dynamite in this ill-considered proposal and we want none of it

3. Responsibility to our Junior Membership.

Your Committee recognizes, however, that a major responsibility of our Society, and one to which we have devoted much effort and no inconsiderable financial support, is the guidance and advancement of young engineers, junior members of our Society, whose conditions of employment are not on a professional plane.

The engineering profession still requires a period of apprenticeship following graduation from an engineering school, in sub-professional work, before the young engineer is admitted to professional status or is licensed to practice in a professional capacity

This period of apprenticeship in fact becomes a period of trial and testing, and many young graduates who fail to meet the exacting requirements for professional status find productive and useful careers as technical workers in sub-professional grades. It is also true that many draftsment, technicians and other sub-professional workers are recruited from industrial or other ranks, are not college graduates, and have no ambitions to achieve professional recognition.

There is thus a large group of technical workers, pri-

vates in the engineering army, which cannot or does not look forward to achieving professional status. The conditions of employment of such technical workers is closer to that of the skilled craftsman than to that of the professional engineer

While our Society has made great efforts to improve the conditions of employment of such workers, it seems clear that ,under modern conditions and keen competition, such employees have in some cases been forced to turn to collective bargaining as a means of improving their economic status

The interest of the Society in individual members, our juniors, in this group, ceases when such members reach the age of 35 years and have not achieved professional recognition and status

The Society, however, has a direct interest in such sub-professional employment of its junior and prospective corporate members. It also has a pubblic and professional responsibility to offer its services to all members of this sub-professional group in the interest of technological progress and through the amicable settlement of any disputes by means of conference and arbitration.

We believe these responsibilities can be met, in large part if not completely, and at least in accord with our conception of the professional viewpoint and attitude, through the organization of effective Committees on Employment Conditions. We believe that even those sub-professional workers who are not members of our Society would welcome the services of a truly professional group in solving their employment problems. Such a committee, it goes without saying, to be useful and effective must be interested, active and aggressive in meeting the challenge which the situation above outlined brings forward. In all probability, such a committee will never be able, under all conditions and in all situation, to act as quickly and effectively as a labor union. Some of our junior members may be forced, in special cases, to join union organizations, but we believe that the problem of organizing a Committee on Employment Conditions so that it may act effectively and courageously in guiding and directing the development of better economic conditions among young engineers is far simpler than that of building up, in the Society, an effective and efficient labor union.

In our opinion, it is particularly desirable that this proposed committee develop reasonable minimum standards of compensation for junior engineers. These young men should not be continually burdened with struggles to attain financial stability but should be free to devote their major efforts to making the most of professional status.

Similarly, we believe that too few professional engineer-employers realize their obligation and responsibility to act as guides, counselors and friends to the junior engineers in their employ. The period of apprenticeship is an essential part of the educational program of the professional engineer. The engineer-employer has thus not only responsibilities as an employer, but also as an educator which deserve far greater attention than is, unfortunately, usually given to such activities. This is a problem to which a Committee on Employment Conditions could well direct part of its attention

4. The Clarification of Professional Status.

It seems essential to your Committee that steps also be taken to clear the legislative tangle which has involved professional engineers (in some cases, corporate members of our Society), in labor union activities as noted in Section 2 above. The definition of professional engineer proposed in our report has been legally established and recognized and meets the needs of any projected legislation. Your Committee is not prepared, however, to suggest the proper channels through which legislation specifically excluding professional engineers from the provisions of the National Labor Relations Act may be initiated. This is a subject on which the Society should secure competent advice. We note, however, that such legislation should probably include all professional groups and that architects, lawyers, and doctors of medicine, as well as members of our brother engineering societies, should be interested in and willing to aid in bringing forward legislation directed toward these ends.

We might add that such a clear cut definition of the professional engineer as is here suggested, namely, the licensed professional engineer, should do much to clear up the difficulty which our profession faces in distinguishing between the engineer and the technician, a distinction which it is very desirable to bring to public attention.

Comment

A. S. C. E. — January 19th Annual Meeting

At a session held in New York on January 19th and devoted to a discussion of the action of the Board of Direction of the American Society of Civil Engineers in authorizing Sections of the Society to amend their constitutions and participate in sponsoring Collective Bargaining Organizations, the membership attending the annual meeting of the Society voted to sustain the Board by defeating a motion offered by George Lucas, former director of the Society, to have the said Board reconsider its decision. The vote was 124 against reconsideration and 97 for such action.

A special committee was appointed and funds appropriated, by reducing the original amount for collective bargaining and allocating the difference, to the said committee which will investigate the possibility for having the present Wagner Act amended so as to definitely exclude the professions or of having legislation enacted which would define the status of professional men in the matter of collective bargaining.

ENGINEERS-IN-TRAINING

SOME INTERESTING CORRESPONDENCE

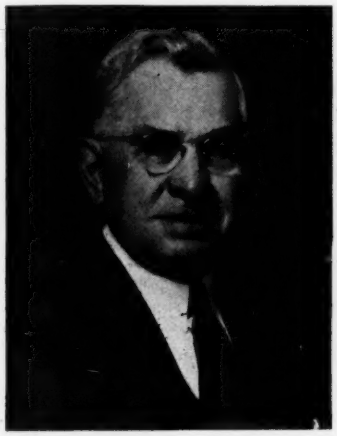
RESPONSES TO NEW YORK STATE SOCIETY INVITATION

INDICATE THAT DESPITE PROBLEMS POSED

WAR HAS NOT LESSENED DETERMINATION

Past President Riedel Responds

As Chairman of New York State Society Committee



JOHN C. RIEDEL
Past President N.S.P.E.

Past President John C. Riedel of N.S.P.E. has had some exchanges with Engineers-in-Training in New York. These young men, prevented from active participation in the development of the interim organization to be known as the New York State Society of Engineers-in-Training, because of the war situation, are none the less enthusiastically looking forward to peace time activities. The letters of these young men, both recent engineering graduates and successful candidates in the first Engineer-in-Training Examination, follow.

United States Pacific Fleet
U. S. Naval Air Forces
Carrier Aircraft Service Unit Six
c/o Fleet Post Office
San Francisco, California

Dear Professor Riedel, December 18, 1943

It was with great pleasure that I received your letter of December 2, concerning Engineer-in-Training. It was forwarded to me from home

A lot of water has gone over the dam since you, Commissioner Sheridan and I appeared before the New York State Board of Higher Education, in support of this organization. As I remember that was in March, 1942. As now Engineers-in-Training has finally come into it own.

We young engineers of New York State owe a lot to you, Commissioner Sheridan and ex-President Zurmuhlen. Without your advice and assistance, and without the work you had been doing along these lines for years, the movement for a young engineers organization, which we started at Manhattan College in February, 1941, could never have grown to the Engineers-in-Training as it exists today.

Since I last saw you (at the annual spring convention of the N.Y.S.S.PE. in 1942) I joined the Navy, and have started to "see the world" My duties have been of both an engineering and an administrative nature, in connection with Naval aircraft This work has been very interesting. Sometimes it is fast moving, sometimes slow, and every now and then it gets a bit hectic. A full realization of the tremendous work in which our Navy and our Navy's air forces are constantly engaged, cannot possibly be had by other than personal observation

It seems that ones education is never quite completed. Nine months of my first year in the Navy were spent in school. During that year I attended Navy courses at Dartmouth, M.I.T. (Aeronautical Engineering), and the Army-Navy Engine School. It was while attending this last school at Hartford, Connecticut, that I had the opportunity of taking the first E-in-T exam last June. It was very fortunate for me that I was near enough to New York to attend that examination

The organization of Engineers-in-Training, as outlined in the "plan" enclosed with your letter, seems to be excellent. My hope is that it will be in the not-to-distant future, that those of us who are now away from home, will be back and actively participating in the development of this young society. Undoubtedly, the guidance and assistance of our parent society, the State Society of Professional Engineers, are eagerly desired by all "Engineers-in-Training."

Thank you, Professor, for your letter. If it is possible, I would like to be kept informed on future developments which concern our organization.

Ens. D. J. Houlihan, U.S.N.R

Sincerely yours
Dan Houlihan

The New York State Society
Of
Professional Engineers, Inc.
Grand Central Terminal
New York

December 29, 1943

Ens. D. J. Houlihan, U.S.N.R
U.S. Naval Air Forces,
Carrier Aircraft Service Unit Six,
c/o Fleet Post Office
San Francisco, Calif

My dear Ensign Houlihan:

I was delighted to receive your letter of December 18 concerning your present activities, and your thoughts regarding Engineers-in-Training. I am very much pleased to have your endorsement of what has been done, but

really, when one looks back over the various activities, I am persuaded that your own presence in Albany on that momentous occasion carried the necessary force to convince Commissioner Conroe that what Commissioner Sheridan and others, and I, had been trying to accomplish, should be brought into being. I personally believe that the step taken is one that will be of great benefit to the eningeering profession and, incidentally, to the young men who are required to carry on the professional work.

I see Commissioner Sheridan quite frequently and former President Zurmuhlen occasionally. The latter has been taken ill and is now in a hospital, where he is expected to remain for a couple of months

Your work with the Navy must be very interesting and revealing. Our armed forces are certainly carrying on in the best traditions, and we who must remain here at home feel assured that you young men will carry on to a successful completion this necessary act of war against the enemies of mankind

There have been no new developments since I last wrote you with respect to Engineers-in-Training. We must await further developments, and of course we cannot launch successfully our Engineers-in-Training associations until our young men return home. We hope that day may be not far distant, and when it comes we shall be glad indeed to carry on to the end that wonderful work in which you and your young colleagues performed so splendid a service.

My best wishes for a Happy Yuletide and a most successful New Year

Sincerely yours,
John C. Riedel
Chairman, Com. on Engineers-in-Training

State of New York
Department of Health
District Office
61 Albany Ave., Kingston, N. Y.

December 28, 1943

Mr. John C. Riedel, Chairman
Committee on Engineers-in-Training
The New York State Society of Professional Engineers, Inc.
Grand Central Terminal, New York, N. Y.
Dear Mr. Riedel:

I wish to thank you for your letter of December 2, 1943 and apologize for not answering it sooner.

You may recall a conversation with me about two years ago when I was President of the Manhattan College Chapter of American Society of Civil Engineers. You will remember at that time, I was very much interested in pushing the move for professional recognition for engineering graduates in the period after they left school and before they had reached the full status of a professional engineer.

My interest in this movement did not die when I left school and is as strong now as it was then.

I read with great interest the mimeographed folder enclosed with your letter and look forward to the actual organization of the Engineers-in-Training Group. However, I am not certain whether such a group is available at the present time to proceed with the organization. Many men I believe are in the Army and others are not in any one city so that organization will be difficult. As the whole program when we started it a few years ago was believed to be impossible, I do not feel that the difficulties caused by the war will interfere with this group. Until such time as the group is formed, I would certainly like to to receive any correspondence which you or the State Society may send to the Engineers-in-Training

If I can be of any assistance to you whatever, please feel free to call upon me. While I am not living in New York at the present time, I do get to the City on an occasional week-end and I would be glad to talk to you at some future occason if you should wish it. Wishing you the best success in this work, I remain

Sincerely yours,
James F. Fawls
Junior Sanitary Engineer

1347 Municipal Building
New York 7, N. Y.

Mr. James F. Fawls — January 3, 1944
Junior Sanitary Engineer
Department of Health
61 Albany Avenue, Kingston, N. Y
Dear Mr. Fawls:

I was very much pleased to receive your letter of December 28 concerning the organization of the Engineers-in-Training group

It is recognized that real advancement in the organization of the Society of Engineers-in-Training cannot be made until the young men who are away on war duties have returned to peace time pursuits. We hope, however, that this return is not in the distant future, and that before the end of the year we may be looking forward to resumption of peace time activities.

You and your group of Manhattan graduates were most helpful in this movement to make it possible for the young engineers to receive recognition from the State Department of Education. I heard recently from Houlihan, who is now an Ensign on duty with the United States Naval Air Forces somewhere in the Pacific. He writes quite hopefully as to the progress of the Engineers-in-Training.

We shall be very glad to avail ourselves of your help, and President Fairman has advised me that your name has been placed on the State Society mailing list so that you may receive notice of the State meetings. If you were near some local chapter of the State Society, it would be mutually helpful if you could attend the meetings. Some years back there was a chapter in Kingston, but it may be that its activities have waned

I shall be glad to have you drop in and see me when you are in the City of New York, and if you will advise me when you come down, I shall try to be at my office.

With my kindest regards and best wishes for a Happy New Year, I am

Sincerely yours,
John C. Riedel
Chairman, Committee on Engineers-in-Training

Submitted as:

ITEMS OF GENERAL INTEREST

Ohio Wins

Becomes Largest State Organization

As a result of a driving 1943 finish Ohio drew away from New York in the stretch and passed under the wire a winner by a full length. According to Secretary Larson of N. S. P. E., who was agreed upon as judge, the Ohio Society now leads the New York State Society by about one hundred and fifty members and becomes the vanguard in the procession of state professional engineering organizations. The exact membership as of December 31, 1943 will have to await the report of the auditors.

From reports Prexy Graf of Ohio is overjoyed and eagerly awaits the choicest combination of colors in tie attire that New York's sartorial marts can produce. President Fairman has graciously conceded defeat and is presently searching for "Some Tie".

Mr. Walter Graf, President January 15, 1944
Ohio Society of Professional Engineers
Municipal Building
Lancester, Ohio
Dear President Graf:

I hope that my attempt to send a congratulatory telegram was successful. The message was accepted at this end after considerable cogitation but one never knows when the censor will catch up with him. For your information, in case you did not receive it, it stated:

"Ohio made good their slogan. Regret that necessary wartime regulations will delay your receipt of our sincere tribute."

I do most sincerely congratulate you and the Ohio Society of Professional Engineers on having made good on your slogan, "Beat New York in 1943" and at the earliest opportunity I shall go shopping for a suitable token of your victory and forward it to you.

I have a hope and a question. The hope is that our defeat will stimulate us to renewed activity which will enable us to regain the lead and that knowledge of our activity will likewise serve as a stimulus to the Ohio Society to make every effort to grow in membership. Such competition will be healthy for the profession because what we all want is a strong national society able effectively to represent the whole profession.

My question is, how did you do it? Evidently you have something to teach us and we are willing to learn. If it isn't a secret and if you are willing to help a brother in distress, I shall appreciate it very much if you will inform me in detail of the methods you found effective, of the arguments you used, of the literature you distributed and of any other stratagems or devices which resulted in your victory

Very sincerely yours,
James F. Fairman
President, NYSSPE

With equal graciousness and without gloating President Graf acknowledged President Fairman's greeting and encouraged New York to recover its leadership.

Mr. James F. Fairman, President,
New York State Society of Professional Engineers,
1941 *Grand Central Terminal,*
New York 17, *New York.*
Dear Engineer Fairman:
Dear Engineer Fairman:

Thank you for your telegram extending congratulations upon the success of the Ohio Society of Professional Engineers in connection with our friendly membership contest.

This contest has provided a lot of fun and has been a profitable one for both the New York and Ohio Societies. I trust the New York Society will resolve to regain the honor in 1944 and my successor in office with the support of the membership of the Ohio Society will maintain that it "can't be done."

With kindest regards and best wishes, I remain

Sincerely yours,
Walter W. Graf,
President.

New York and its able President are not going to permit Ohio's supremacy to remain unchallenged.

Watch for renewed rivalry in 1944.

Extension of Governmental Agencies

Opposed by Metropolitan Section A.S.C.E.

Use of Federal Engineers for Non U. S. Work Protested

In a recent communication to the Board of Direction of the American Society of Civil Engineers, the Metropolitan Section directed attention and expressed opposition to unnecessary expansion of governmental agencies and use of Federal engineers.

Gentlemen:

Your attention is respectfully invited to the subject of the gradual extension by various governmental agencies into the field of engineering practice that has in the past been normally covered by private practicing engineers.

The Public Roads Administration, according to report, is surveying and preparing to supervise and assist in the design and construction of roads and bridges in Bolivia. The Tennessee Valley Authority, according to report, is assisting in the designing and construction of hydro-electric plants in Russia. It is reported that other bureaus and agencies of the Federal Government are increasingly carrying on outside engineering work, both at home and abroad, and even planning for further enlargement of the scope of such work.

It has also recently become the practice of bureaus of the Federal Government to assign engineering design to fabricating and construction companies. This follows European custom but is contrary to established American practice and professional standards.

Private engineering organizations have made their outstanding and indispensable contribution to the war effort by their professional work. From the standpoint of public interest, it has been fortunate that this body of private practicing engineers has been available. Through the strains of economic depressions and construction cycles, only the most competent and efficient individuals, firms, or organizations can survive in private practice, and in this way a selected group has been available not only in time of peace but in time of war. The current practice of the governmental agencies is a new threat to the survival of this group.

If the former long-established policy of retaining specialized outside talent to design and to supervise construction of special projects is abandoned, or if the bureaus and agencies are going to offer their services to foreign countries in lieu of established, competent engineering firms, the Federal bureaus and agencies will have to be unduly enlarged, thus adding to the burdens of the taxpayers

We believe it inadvisable, improper and contrary to public

interest for the Federal Government to displace or to eliminate practicing consulting engineers from the field of public work, whether that work is located in this country or in foreign territory.

The Metropolitan Section therefore petitions the Board of Direction of the American Society of Civil Engineers to address suitable communications to the President of the United States, to the members of the Senate and the House of Representatives, and to the Federal bureaus concerned, requesting a discontinuance of the growing practice of displacing or eliminating practicing consulting engineers from the field of public work.

Respectfully submitted,
Metropolitan Section, Am. Soc. C. E.
by Irving V. A. Huie
President

Unity Now

Role of N.S.P.E.

Discussed in Interesting Exchange Between Distinguished Members of A.I.Ch.E.

That influential members of the National Technical Societies are cognizant of the aims and accomplishments of N. S. P. E. and its affiliated State Professional Organizations is well attested to by the appended letters published with permission.

Mr. S. D. Kirkpatrick, Editor
Chemical and Metallurgical Engineering
330 West 42nd Street New York 18, N. Y.
Dear Sir: December 28, 1943

Your editorial in the December issue of Chemical and Metallurgical Engineering entitled "Unity Now" is a very expressive of a serious problem. However, I cannot see why in connection with the desire to have one group represent the "political and legislative" side of engineering you did not take cognizance of the National Society of Professional Engineers, which is set up for just this purpose and which is, so far as its support will allow, doing a creditable job.

In this case we have the State societies and county chapters in the state, the necessary type of political set up used to such good effect by the medical profession. Membership is confined to those who are licensed and hence legally entitled to the term "engineer".

It would appear that one of the basic troubles lies in the opposition to licensing which was widespread in the engineering profession some years ago, but which I believe is dying out in all but a few quarters where they fail to realize that licensing is an accomplished fact and here to stay. I have consistently held that one of the troubles with chemical engineers is that they regret that legal enactments often fail to protect their interests, but take no active part in the one professional organization which could correct the errors.

A very small proportion of the membership of the Institute of Chemical Engineers in New York State is licensed and a most minute percentage are members of the State Society. They can hardly expect to have very much influence under these conditions.

We need no new society for the political and legislative side. We have one. If there is something wrong with it and its objectives, corrections can better be applied from the inside than the outside. Why add further to the "plethora" of organization.

Sincerely yours,
John M. Weiss

Chemical and Metallurgical Engineering
McGraw Hill Publishing Co., Inc.
330 West 42nd Street
New York 18, N. Y.

Dr. John M. Weiss, January 11, 1944.
John M. Weiss and Co.,
50 East 41st St., New York 17, N. Y
Dear John:—

Just to have it in writing I want you to know that we appreciate receiving your letter of December 28th commenting on the editorial titled "Unity Now" which appeared in the December issue of Chem. and Met. We will try to use this in our February number. At the same time I will gladly point out my serious oversight in failing to have taken cognizance of the job the National Society of Professional Engineers can and is accomplishing in the political and legislative field, as they affect engineers

Best regards

Sincerely yours,
(signed) S. D. Kirkpatrick
Editor

P.S.—You may assure Mr. Sheridan that we shall have no objection to any use he cares to make of your letter or of the above comment. —*Sid*

Decentralization of Government

Some Comments By Former State Official George Conrad Diehl — Consulting Engineer

Decentralization does not appear to be a controversial question, but there are innumerable suggestions as to just how it should be accomplished.

It certainly cannot be done at "one fell swoop" but must result from action in all of the respective fields of social service, public works, education, etc.

Engineers are vitally interested in public works. May I say as a personal opinion that almost no public works should be constructed by the Federal Government if they can be done as well or nearly as well by the individual states or a regional grouping of states

No such works should be done by states if they can be as well or nearly as well done by counties, regions or smaller governmental subdivisions.

It is obvious that smaller subdivisions cannot perform these tasks unless they have sufficient funds, or in other words, an appropriate share of taxes.

It is likely that the states and the nation may continue to collect taxes but certain amounts shall be automatically transferred to the lesser treasuries, not as aid and without restrictions.

Centralization of the tax revenues in the national and state capitals makes for undue powers and influence, even though large sums are reassigned as federal and state aids.

It is easier to collect authority than to decentralize. A start can be made and a trend established which will surely, even though slowly, secure an equilibrium and working distribution of powers and revenues.

In the second partial report of our committee under date of December 15, 1943, reference was made to Bill S-971, HR 2426, providing a fund of three billions for post-war construction.

I wish to oppose this bill on the ground of added and continued centralization

It appears to me that the federal government should build a national system of highways, possibly totaling 30,000 to 50,000 miles; that the states should construct state highway systems approximating on the average ten per cent of road mileage (excluding streets in cities and closely built places); that the smaller subdivisions should build the remaining roads.

There is a place for limited access and self-sustaining motorways which does not conflict with, but rather supplements the several above-mentioned systems.

The public, the road users, contractors and engineers would all benefit from decentralization.

State and federal highway aids in the past have been highly beneficial, but it is believed that a change would be helpful.

Public opinion is the foundation of democratic government. The larger the unit, the more difficult it is to crystallize and express public opinion.

In the smaller local subdivisions, officials usually and quickly respond to public sentiment, with equitable, effective and economical results

Who Dares Reply

Who Can But Hang His Head and High
(From "Sparks" — Harrisburgh Chapter, Pensylvania)

If any Americans have had doubts as to the way our boys fighting on foreign soil feel about the home folks, the matter appears to be clarified by a clipping sent us by Engineer George A. Rahn from the Twenty-Third Engineers News.

LT. DEAN SHATLAIN *Tank Commander*
Writes Poem on Battlefield of Africa

What did you do today, my friend,
From morn until the dark,
How many times did you complain
The rationing is too tight?
When are you going to start to do
All of the things you say?
A soldier would like to know, my friend,
What did you do today?

We met the enemy today
And took the town by storm;
Happy reading it will make
For you, tomorrow morn.
You will read with satisfaction
The brief communique;
We fought, but are you fighting?
What did you do today?

My gunner died in my arms today—
I feel his warm blood yet;
Your neighbor's dying boy gave out
A scream I can't forget
On my right a tank was hit —
A flash, and then a fire;
The stench of burning flesh
Still rises from the pyre.

What did you do today, my friend
To help us with the task?
Did you work harder and longer —
For less —
Or is that too much to ask?
What right have I to ask you this,
You probably will say;
Maybe now you'll understand —
You see, I died today!

(Lt. Shatlain amputated his own foot with a jack-knife and thought he was dying when he wrote this poem. He was rescued by Americans after about two hours of hiding, and is now in a hospital in England.)

What irony! The talent of generous youth so lavishly spent to save the mediocrity of so much complaining age.

The Navy and Officer Candidates

Comments Of A Subscriber Re December Issue Notice

The National Society of Professional Engineers
415 Lexington Avenu New York, N. Y
Gentlemen:

The December issue of the American Engineer carried an article "Navy needs Engineers". Your article was undoubtedly published with the best of intensions and backed by the most patriotic motives but my experience leads me to take exception to the publication of such articles without qualification.

For over one year I have been trying to secure a commission in the Navy and have four letters of rejection to show for my efforts. I have traveled about 600 miles and spent about five days taking examinations and in interviews and still feel that if the Navy needs engineers as stated in your article and that if I were examined by qualified engineers I would be accepted in the Navy.

To give a brief resume of my qualifications, I am 43 years old, married and have three children. I am a graduate of Westminster College and also Massachusetts Institute of Technology. I am registered in Ohio and Pennsylvania, am a member of your Society and also the American Society of Mechanical Engineers. My experience covers experimental and development engineering, cost control, production work and mill supervision, expediting and engineering estimating with National Tube Co., Babcock & Wilcox Tube Co., Republic Steel Corp., and Carnegie Illinois Steel Corp. For the last several years about 50% of my work has been in the field of construction jobs so I am not a desk engineer.

At Pittsburgh my first examination showed that my eye sight was poor but I was led to believe that it was not serious and I went through the complete examination. An investigator with no engineering training and very little experience was sent out and, according to my friends, appeared to be chiefly interested as to whether or not I was entering the Navy for financial gain. Since I now earn more than the Navy would pay me he did not need to worry about that. He called on very few people but a few weeks later I received a rejection slip. They refused to reconsider it.

I then applied to a traveling representative of the Cleveland Office. He took an initial application containing about the equivalent of the above information. After waiting six weeks I wrote to Cleveland and received a statement from a different officer stating that I was not qualified.

Another traveling representative came to Youngstown and I called on him. He wanted written information and I submitted it on his next trip. He promised to have it considered at the home office. I waited six weeks and wrote to Cleveland and received another rejection slip from an officer I had never seen.

Frankly I was disgusted and I wrote a strong letter stating that I did not believe my qualifications had received proper consideration. I received a letter from the same officer that had interviewed me in Youngstown stating that he thought they "had a place for me". I went to Cleveland and immediately told them what my eyes tested but they said to go ahead and take the examination. I took examinations from 9 o'clock until 2 o'clock making better than average marks in the mental tests for it was the second time I had taken them. My eyes tested 5/20 which was two points better than I had told them in the morning. I was then referred to another interviewer and he refused absolutely to consider me because of my eye test. He was not interested in my education, training or experience. My eyes tested 5/20. I was through.

I was not interested in sea duty. It takes years to train a man for that and there is no time to train me. But I do have years of training and experience in the steel industry and I could take the place of a man who has been trained for sea duty. I appreciate fully that a man on sea duty cannot be bothered with glasses but in my line of work, glasses are no handicap. So far as I know I showed no other physical disabilities in either of the physical examinations I took. Yet the article in your paper states that "defects which are not organic in nature and which are not likely to interfere with the performance of specified duties may be waived".

The foregoing facts are from my personal experience. The following was told me at Cleveland. About five men went through the examination with me who were applying for the second program mentioned in your article, Audial Visual Aids. Five others were in another class for the same program and altogether they had about thirty applicants. If Cleveland was an average office there could have been around a thousand applicants, many of whom had traveled considerable distance to get there, who spent the entire day being examined and, according to the interviewer, there were about 15 commissions to be given in the entire United States. What a waste of Manpower at a time like this.

Now I do not wish you to do anything about my case and, least of all do I want you to publish my name in any way for I am not interested in parading whatever patriotism I have. But, in spite of your article, I, for one, do not believe that the Navy needs engineers.

P.S. I forgot to mention that I have an honorable discharge from the Army in World War I.

Fragments from

STATE & SOCIETY ACTIVITIES

CALIFORNIA

Issues January Bulletin

The January issue of the Registered Civil Engineer, official bulletin of the California State Board of Registration contains the supplemental 1943 Roster.

It also poses the following:

What Is Your Answer?

A problem in fundamental hydraulics, thought by the board to be relatively simple, evidently puzzled the majority of the examinees in a recent written examination in Civil Engineering Design and Construction, for, only seven out of the 81 examinees returned the correct answers. Here is the problem:

A vertical pipe of 6-inch internal diameter extends downward from a tank or reservoir and discharges into another reservoir, the outlet of the pipe being submerged a distance of 3 feet below the water surface of the second reservoir. The vertical distance between the water surfaces of the two reservoirs is 44 feet. About midway (T) of its height is a turbine to which the pipe supplies water at the rate of 3 cubic feet per second. Thus the assembly may be thought of as a small power plant; the upper reservoir being the forebay (A), the section of pipe above the turbine as the penstock, the section of pipe below the turbine as the discharge pipe, and the lower reservoir (D) as the tailrace.

Suppose that there is no entrance loss, no pipe friction, and that there is 100 per cent recovery of velocity head at the pipe outlet. What are the pressure heads in the pipe at a point 10 feet below (B) the water surface of the forebay and at a point 14 feet above (C) the water surface of the tailrace? Also compute the horsepower transmitted to the turbine. It is suggested that you try to solve the problem.

INDIANA

Final 1943 Meeting

The last meeting of the Indiana Society was given over largely to current reports including that of Director Pierce who attended the N.S.P.E. meeting in St. Louis on December 10th and 11th. Quoting from the Indiana Professional Engineer:

"Engineer Pierce was particularly impressed with the keen interest and the unselfish attitude of the high calibered men attending the meeting. 'Each Director,' said Mr. Pierce, 'gave the impression that his sole interest was the welfare of the Engineer.' Mr. Pierce left the meeting with the feeling that the National Society would accomplish many things for the professional engineer."

A sound picture depicting American Troops in Africa, a short talk by Dr. Thurman Rice, Secretary of the State Board of Health and some lighter forms of entertainment concluded the meeting.

MINNESOTA

Engineers in State Service

According to a recent News Letter, a committee of District One has been considering a list of state positions, the requirements of which indicate they might well be filled by professional engineers. President Hermann indicated that when this report is completed, a committee may be appointed to call on the Governor and discuss the desirability of appointing qualified professional engineers to such positions in order to best serve the administrative needs of the State.

Convention Attendance

A short time back President Hermann suggested for consideration by district societies the question of whether, as an accepted practice, employed professional engineers should be permitted to attend technical and professional conventions, and be permitted time off from their duties to attend such meetings. It is probably a field for educational work among employers, public and private

Fees and Salaries

A recommended Schedule of Minimum Fees for engineering services was adopted by the Association on February 14, 1943. Its necessary corollary — a recommended Schedule of Classifications and Wage Scales — has been under consideration now for sometime. H. C. Leibee's subcommittee on Professional Personnel and Positions Inventory Committee has presented its preliminary report on this subject. Mr. Leibee also has appeared before the Seventh District at Marshall and great interest has been shown in this subject

The committee prepared specifications for three grades of Sub-Professional Employees and four grades of Professional Employees. The recommended salaries ranges are: Sub-professional, Grade 1, $1200-1800; Grade 2, 1800-2400; Grade 3, 2400-3600. Professional, Grade 1, 3000-4800; Grade 2, 4800 and up; Grade 3, 6000 and up; Grade 4, 8000 and up. Some revisions already have been suggested and it is hoped to have the report in revised form for complete reporting to the membership at an early date.

District Meetings

Because of a delay in receiving the information the following reports are behind schedule but nonetheless worth noting.

District 8 at its meeting November 26, voted action opposing the attempt of the A.S.C.E. to unionize engineering employes. It also heard a very interesting and comprehensive report on the Wages and Hour Law by a committee under the chairmanship of J. Grant Waits. New officers for the coming year elected at the meeting are:—President, N. T. Rykken, Vice President E. F. Johnson, and Secretary-Treasurer, E. C. Slagle, re-elected.

District 7 meeting November 18 at Marshall heard a discussion by National Director Wheeler of the dangers of attempted organization of the engineers as an employe group under the Wagner act, as proposed by the A.S.C.E. State Secretary Stolte also spoke and H. C. Leibee presented a preliminary report on Classifications and Wage Scales which evoked considerable discussion. Floyd Minium was in attendance, representing District No. 2.

District 4 at its November meeting heard an interesting talk by O. L. Kipp, chief engineer and assistant commissioner, Minnesota State Highway Department, concerning plans and thoughts of that department in connection with the post war period. An extensive advance engineering program is already under way in the Department. A report of the Nominating Committee was received from its chairman, S. E. Blunt.

District 2 held its November meeting at the Burton Hotel in Mankato. Principal speaker was National Director Wheeler who covered N.S.P.E. activities and other professional developments.

District 5 will hear a further report on the subject of Wages and Classifications at its December meeting at the Y.M.C.A. in Minneapolis. Members of other districts who are interested are invited by Pres. McWethy of District 5 to attend and take

part in the discussion. T. S. Thompson, sub-committee chairman, will present a report on recommended changes in the Registration Act also

Reprints

Reprints of "The Engineer in Industry", an article by Thos. W. Rolph, vice president of the Ohio Society of Professional Engineers, and Chief Engineer of the Hoolophane Co., are now available at the association office. The article appeared in the September issue of the American Engineer. It should be of particular interest to every engineer especially in private industry.

Collective Bargaining

State Officers of the M.A.P.E. feel that the A.S.C.E. has taken the wrong approach to the problem of over-all professional organization and representation in economic matters. It is feared that such proposed action by the A.S.C.E. if carried out would definitely place engineers in the same category as mechanics and laborers.

NEW JERSEY

Trustees Gather

Although somewhat late for reproduction in the February issue, the minutes of the December 10th meeting are noted with the folowing abstractions:

Vice President Kissam convened the business session at 8:45 P.M. Present were: Engineers Anderson, Childs, Christy, Colwell, Degnan, Higgins, Jacobs, Kramer, Matte McKee, Moore, Stickel, Taylor, Vice President Kissam and Secretary Braun.

Business Manager Higgins of the New Jersey Engineer reported that a generous number of renewals have been received from present advertisers. He thinks there is a good chance to make the quota of 200 advertisers for the 1944 Issues beginning in July. Favorable comments have been received from some advertisers which should make renewals easier.

Engineer McKee led a discussion on the advisability of having a listing for professional engineer members available in the New Jersey Engineer at a nominal cost.

Progress was reported for the Legislative Committee. The Annual Report will appear in the January issue of the New Jersey Engineer

The Ethics Committee has submitted its Annual Report for publication. Chairman Christy reported that the Civil Service matter is under consideration by our State Registration Board. The special Civil Service Committee will report later.

Chairman Matte of the Public Relations Committee made an interesting report. He is endeavoring to arrange for radio broadcasts on Station WAAT through the cooperation of H. J. Adonis, Chairman of the NJ Goodwill Commission. It will be necessary to prepare the script and to supply a speaker who will be interviewed by Mr. Adonis. Four weeks' notice will be required for this

Chairman Stickel, Defense Advisory Committee, reports that his Committee was asked not to resign in order to give the incoming Governor an opportunity to appraise the situation. The following letter was offered for the record and attests to the valuable work this Committee has accomplished. The Annual Report will appear in the January issue of the New Jersey Engineer.

ARMY SERVICE FORCES
HEADQUARTERS 2nd SERVICE COMMAND
Office Of The Commanding General
Governors Island, New York

Mr. William A. Stickel, Chairman — 22 November 1943
Technical Advisory Committee
Office of Civilian Defense Director
Newark 2, New Jersey

My dear Mr. Stickel:

Now that the Regulations Governing the Control of Artificial Lighting in the Coastal Dimout Area are suspended, I want to express to you and through you to the officials and citizens of New Jersey my sincere appreciation of the high degree of cooperation which was shown in complying with them. Without such loyal civilian support effective results could not have been obtained.

We all hope that this suspension will remain in effect, but I know that if the military situation should require the resumption of dimout, I can count on your assistance and the cooperation of the citizens of New Jersey.

With kindest personal regards, I am

Yours most sincerely

(signed) T. A. Terry
Major General, U. S. Army
Commanding

The Post War Planning Committee has been very busy lately studying the maze of proposals on Post War Planning. Undoubtedly some useful legislation on this subject will be forthcoming from Washington very soon. The report of this Committee will also be published in the New Jersey Engineer.

Chairman Moore of the Salary and Fees Committee read his Annual Report. A discussion revealed that there is a real selling job to do to put over the 1943 Salary Schedule with Industry. This Report will likewise be published.

Acting Chairman Taylor of the special 'Unionization' Committee presented a sober report. He called attention to the West Coast where all engineers must belong to a union in order to hold a job. This problem diminishes as we move Eastward. A serious discussion ensued and the Secretary was directed to send a telegram to NSPE at its Convention in St. Louis asking what immediate action they will take in this matter. Engineers Stickel and Taylor collaborated in the wording of this telegram. If action by NSPE is not considered favorable, unfortunate repercussions may result. The discussion on this matter will be continued at the next meeting.

Engineer Taylor declined to accept the chairmanship of this special Committee as he announced his retirement from active duty on the Board of Trustees. He expressed his sincere gratitude for the honors shown him during the past five years and he agreed to carry on as a member of this Committee if requested to do so. No action was taken by the Board on Engineer Taylor's statement. Each Board member was urged to give the 'unionization' and 'collective bargaining' issues serious consideration in order to plan definite action at the next Board meeting.

NEW YORK

Winter Meeting — Febrary 25-26

The following is from the President's Communication to the Members of the Executive Board:

This is preliminary but official notice of the Winter Meeting of the Executive Board which will be held at the Ten Eyck Hotel, Albany, New York, on Friday evening, February 25, 1944. This will be followed by the usual Membership Meeting on Saturday, February 26, 1944. The usual notice of the meeting is in preparation and will be mailed to all members in due course. An agenda of the more important items of business to be transacted, together with Committee reports, will be in your hands a week before the meeting.

Albany Chapter

Membership Increased

According to the News Bulletin:

Eleven new names added to our membership since last August! Engineer Westfall, Chairman, and his Membership Committee have others they will sign up after the holidays. Engineer Charles H. Sells, the new Superintendent of Public Works, State of New York, is a Westchester Chapter member. (Sorry we couldn't have him in our Chapter) but am told on good authority he is backing our membership campaign 100% in signing up the eligibles in his department. We sincerely hope many of these will join up during 1944. The State Office Building membership should occupy more space in our Year Book.

The Year Book

This Committee, headed by Engineer Bond, have about everything lined up for early printing and distribution. Additional ad-

vertisements have been solicited to make this self-supporting. Send in at once any changes in home or business addresses to the Secretary so you will be listed correctly in the Year Book. We have a message from Engineer Harry Disbrow, located with U. S. Maritime Commission, National City, California that reads: "Wishing to be remembered to all — see you some day — keep sending the Bulletins". Glad to hear from you, Howard. We would like to hear from more of these far away Engineers. Ken Fraser is still on the sick list but is recuperating rapidly and expects to be back on the job after New Years.

Erie Chapter

From the January issue of the Erie County Chapter Bulletin the following items are reproduced:

Engineering Education

Engineering education is a timely topic for Buffalo. Those who heard Carlos Harrington describe the situation at a recent meeting are not surprised at the developments. A State School of Applied Sciences and an Engineering School for the University of Buffalo have been referred to the local press. It may be too early to talk about it, but the thought must be kept in mind to demand an accredited school or none. Engineering courses that are not fully accredited by the License Board should be advertised as being below par

The License Law

Section 1457 Subdivision 7 of the Engineers' License Law refers to exemption from the law the practice of professional engineering solely as an officer or an employee of a corporation engaged in interstate commerce. On May 9, 1934 State Attorney-General, John J. Bennett, Jr. rendered a legal opinion based on a specific case of filing plans for a proposed industrial building. The Attorney-General's opinion contains much reference to sections of the law and concludes as follows: "Thus an *unlicensed* person engaged in the practice of engineering solely as the employee of a corporation engaged in interstate commerce, is now prohibited from filing plans for a building in the State of New York". — This is an important feature of our law. At future meetings Chapter Secretary Landers will have the data, referred to above, in detail and the references to building costs, building volume and structural plans

Bureau of Information

The Chapter has a bureau of information at Secretary Landers' office, 701 Crosby Building, WA. 0245. He has application forms for licenses — he has copies of the law and all data except the examination questions.

Note: Attendance at meetings now limited to Members of this Chapter and their invited guests only. Niagara and Chautauqua County Chapters cordially invited.

Society President's Letter—January 1944

To the — County Chapter Presidents &
Membership Committee Chairmen
Gentlemen:

Although we have not yet been informed who buys whom a necktie, the Executive Committee at its meeting on January 10, 1944, recognizing that the problem of increasing our membership is always with us and involves continuous effort, instructed me to inform you of a plan for more direct participation by the State Society in the chapters' own efforts to increase the membership. Participation in this plan is, of course, optional with the chapter

If a chapter will furnish Headquarters with a carefully selected list of the correct names and addresses of licensed non-members who are deemed to be good prospects, Headquarters will mail to each of the individuals on your list from time to time copies of promotional literature as it becomes available and will inform you of the dates of these mailings and the contents thereof. If you wish to take advantage of this assistance, please understand that we shall expect the chapter to do its part by personally following up the individuals who receive the literature, inviting them to your meetings and doing everything in your power to make the program effective. Moreover, it is not intended to broadcast this material to everyone on the State Roster but to concentrate on a reasonable number of the best prospects and on the type of people who should be members of your chapter in spite of the fact that they don't appear to be particularly good prospects.

As an alternate to this proposition, if a chapter prefers, itself, to handle the distribution of the material by mail or otherwise, but in this connection could use to advantage a corresponding amount of financial assistance, the Executive Committee will be glad to consider the chapter's own proposition and if it appears to be reasonable and to have an equal chance of success, the Executive Committee may appropriate the necessary funds for the use of the chapter in addition to furnishing the same promotional material.

Some of this material is in process of preparation and will be available very shortly.

Won't you inform us promptly of your desires?

Very truly yours,
James F. Fairman
President

Interstate Practice

The following communication is reproduced for informative purposes:

To the — Members of the Executive Committee, NYSSPE
Gentlemen:

On November 4, 1943, President Fairman requested the Legal Committee to investigate the factual basis and scope of the Opinion of the Attorney General (1934, Op. Atty. Gen. 362) referred to on page 74 of the 1942 Year Book. Since the facts were not available in New York, Chairman Wheeler of the Committee on Legislation was kind enough to read the Albany file of this Opinion. A copy of his report is enclosed.

"Since the opinion of the Attorney General is binding upon state agencies no state official may receive plans filed by a non-licensed person, even though employed by a corporation engaged in interstate commerce. However, city officials may not always act in the same manner.

If a city agency has accepted plans made by a non-licensed person claiming the exemption granted an employee of a corporation engaged in interstate commerce, then the proper procedure would be to urge the Attorney General to take steps necessary to prevent violations of the law. The burden would then be on the foreign corporation to begin action to compel acceptance of its plans. The Society would not be required to undertake the work and expense of litigation."

Respectfully submitted,
Legal Committee
James F. Fouhy
Frank Lilien, Chairman

OHIO

Passes New York Membership

To the victor goes the accolade. Congratulations Ohio — You must admit however that New York had you worried. President Fairman says 1944 is another year.

The Ohio Engineer

So well and so faithfully does Ohio respond to the appeals of The American Engineer that the January issue of its official publication is reproduced with some slight deletions. (Ed. Note — Fresh from the press the January Ohio Engineer was rushed air mail to the office of The American Engineer arriving just in time for inclusion in the February number of that publication).

President's Letter

Dear Fellow Engineer:

The necktie contest has been concluded, but the results have not as yet been announced by N. S. P. E. Regardless of the final outcome of the contest I want to take this opportunity to express my sincere thanks to our many loyal, hard-working members who have given much time and effort to this member-

ship drive and the promtion of our professional movement, in general. The contest has been a profitable one for both the New York and Ohio Societies, both groups having made substantial gains in membership and interest in professional problems.

If New York wins, I shall make an effort to supply President Fairman with a cravat that will stand out and reflect radiance when he walks down Broadway. If we win I hope to have my "prize" by convention time in February, in order that a large percentage of our membership may see one of the results of their splendid efforts for O. S. P. E. this year. By all means, I want every member of our Society to make a special effort to attend the convention as the Committee is working hard to arrange a program worth while and I will guarantee, regardless of contest results, something unique in neckwear.

Looking forward to seeing you on February 10th and 11th in Columbus, I remain,

Sincerely yours,

WALTER W. GRAF, President

O.S.P.E. 65th Annual Convention (Feb. 10-11)

Committees

Convention Chairman, *C. H. Makeever*

Sub-Committee Chairman

Banquet and Entertainment, *R. J. Lehman*

Reception, *G. C. Clements*

Registration, *M. C. Sprague*

Publicity, *G. V. Lewis*

Ladies' Entertainment

Mrs. C. E. Bishoff *Mrs. J. R. Shank*

Resolutions, *C. E. Pettis*

Use the enclosed post card.

Convention Highlights

The Convention Committee composed of the chairmen of the various sub-committees met jointly with the Executive Committee and now have almost everything ready for the February issue of the Ohio Engineer which will carry the complete program. The general plan with a few of the many attractions is as follows: The convention will be a two day meeting with Registration early Thursday morning. The opening session will see Vice-President Fox in the Chair. At noon the Ohio Northern boys will have their usual luncheon. In the afternoon the Functional Groups will be in session with unusually good programs already arranged. The Highway Section will have Joseph Barnett, Principal Highway Engineer of the Public Roads Administration and Director H. G. Sours; the Public Utilities Section will hear about Electronics; the Municipal Section will delve into the design of modern concrete pavements and Post War Planning; the Private Practice Section will listen to a discussion of Collective Bargaining for Professional Engineers; the County Engineers will discuss Traffic on and Design of Highways. Thursday evening the Board of Trustees will see Prexy Graf presiding for the last time. After the meeting there will be a smoker. Vice-President Rolph will be in the chair Friday morning. At the noon luncheon we will hear a humorous talk by Mr. H. L. Sain. Friday P. M. Prexy Graf will preside at the business meeting. At the Banquet Friday night we have contracted for Dr. McClelland, President of Lincoln Memorial University. "President McClelland has displayed a combination of stream-lined, modern humor, with the sage witticism associated with the great President, whose name is memorialized in the college he heads"—Savannah Evening Press.

Note: Fellows — Bring your wife, the Columbus ladies are planning a variety of entertainment. The banquet will be informal.

YOUR PLANS

Time: **February 10th and 11th.**

Place: **Deshler-Wallick Hotel, Columbus.**

USE THE ENCLOSED POST CARD

Pre-Convention Board Meeting

The well attended meeting of the Board of Trustees indicated the anxious tenseness connected with ending of the Fiscal year and the "Necktie Contest" as well as the build-up ahead of the 65th Annual Convention.

Treasurer Shank reported the total net financial assets as $5380.45. The surplus for the year 1943 was $2189.43. Total receipts for the year 1943 including N. S. P. E. dues, were $14,242.61. Chairman Rolph of the new committee on Problems of Engineers in Industry reported that his committee had met at 12:30 that day for a luncheon meeting and were studying plans and procedure one of which was a brochure for Engineers in Industry. Chairman Pettis of the Resolutions Committee asked that individuals refrain from sending resolutions to his committee. Said Engr. Pettis they should go to the chapter or to the Functional Group. They should be in early for editing by the committee. Chairman Nold of the Citations Committee reported that his committee had no citations to recommend. Chairman Fritche of the Nominating Committee announced the names of Fred Hubbard and Floyd G. Brown to be placed on the ballot. National Director Kennedy read his report on the December meeting in St. Louis (see elsewhere in this issue). National N. S. P. E. President Nold (who called himself just a ringer at the meeting now that he is no longer a member of the Board of Trustees) said that shortly we may be called on to help the Dist. of Columbia promote registration in the District. Executive Secretary Chacey reported the total maximum membership for the year 1943 as 2108 with 47 new members for 1944 already in. He reported also that in answer to those who didn't think the State Office should send out letters to delinquent members, that last year when this was not done we started the year with 343 delinquents but that this year there was only 173 delinquents left. Taking 2108 and subtracting 173 delinquents but adding 47 new 1944 members we started the year with 1982 members on Jan. 1st, 1944. Chacey reported that we had received letters from several Senators in answer to our Kilgore Bill resolution. President Graf still uncertain from whence will come his Convention Necktie but certain of having a LOUD one, reported that the O. S. P. E. buttonhole pin suggested at the last Board meeting was in his opinion the wrong approach to an emblem. President Graf looked forward to the day when the Chapters would be financially able to present each new member with a N. S. P. E. emblem costing $5.50 and which is available for all Registered ENGINEERS (only) who are members of our Society. (An order blank for this emblem will appear in this or a later issue of the Ohio Engineer) President Graf appointed E. J. Salsinger as chairman of a committee on Deed Description Requirements with R. L. Campbell, M. J. Bahin and A. H. Moellenkamp as members. President Graf as Secretary of the Registration Board announced another year without renewal fees for Registration and reminded the members that Ohio is the only State not charging renewal fees of from $1.50 to $6.00. He also stated that the renewal fee for Architects in Ohio is $12. (sounds like good sales talk for the O. S. P. E.) Under the item of new business coming from the Chapters John Hale of the Dayton Chapter suggested a revision of the By-Laws to provide for life membership after 35 years of continuous membership or 65 years of age. Dr. Smull of Ohio Northern Chapter suggested a by-law to set up the present method of electing a National Director.

Looking Ahead

Those entrusted with the destiny of our Profession in the Chapters, in the States, and in the National are naturally thinking of the future more at this New Year Season than at any other time in the year. They are all thinking and planning what they would like to do and what they think the Profession should stand for and accomplish. Many of these thoughts will be unkept New Year's Resolutions. But on the whole those thoughts will mold the future course of the Professional Movement. Permit us to outline briefly some of the problems before our officers and committeemen in 1944.

Of prime importance is our future policy concerning the Economic Welfare of Professional Engineers. This issue is being forced upon us in 1944 by the action of the American Society

of Civil Engineers who have embraced the policy of collective bargaining for Professional Engineering Employees. The A. S. C. E. does not seem to welcome this method of coping with the problem of Unionization but feel rather, that it is the only thing to do in 1944. The National Society of Professional Engineers is setting up a committee to study Collective Bargaining, feeling that although it needs attention at once a six months period of study will be very profitable. Our State Society has a committee on the Problems of Engineers in Industry which is also faced with this same issue. The conclusions our leaders arrive at on this one question alone may have much to do with our future. For us to do nothing about this problem of the Economic Welfare of our profession would be giving up no small part of our field of professional development.

The war has brought another issue to the front. It is the question of whether or not as members of the Registered Engineers Professional Organization we are going to stand up and fight for the right to be a profession and keep the use of the designation Engineer for registered men only. This is a pressing problem because right at present we may be losing ground. So many have been classified as engineers in war industries and in the armed forces that we are going to have to be active in several fields to hold our own in 1944. The membership, violations and publicity committees will have to be very busy getting this idea of An Engineer's Profession fixed in the minds of all Engineers as well as the public.

The forward look into 1944 must consider the real fundamental reasons for our professional movement which occur to us to be summed up in those much used words which will never wear out—To make a Better World. This is a professional movement and will survive and grow as its leaders and members through devotion and sacrifice keep the good of the Profession and Society uppermost in their minds. May we close this look into the future by saying the future depends almost entirely on how seriously the leaders in 1944 face the problems of the year. When such problems are faced seriously and attacked vigorously others will be attracted to and take up the cause of making a Better World through the development of a Truly Great Profession.

A Request

The Committee on General Conditions for Engineering Construction Contracts requests that the members of the Ohio Society may have definite ideas for inclusion, omission or revision of some Article in the General Conditions. Please address your suggestions to Rollin F. MacDowell, 401 Chester Twelfth Building, Cleveland 14, Ohio.

Chapter Activities

ZANESVILLE REGIONAL

Secretary Painter reports a dinner meeting held at the Y. M. C. A. with 14 members present. The evening was spent discussing professional matters and electing the 1944 officers.

CENTRAL OHIO

An eight inch column in a local newspaper, sent in by C. H. Wells of the Chapter publicity committee, tells many interesting things about a dinner meeting held in the Granville Inn. 125 members and guests enjoyed the evening together. Guests were introduced, pictures of the Seabees in training and work were shown by Lt. Comdr. Robert G. Kramer. N. S. P. E. President Harry Nold and others spoke briefly and the newly elected officers were introduced.

MARION

A six inch column in the Marion Star, sent in by Secretary Taylor, gives a full account of the dinner meeting and announced the election results. Executive Secretary Chacey, who spent a number of years in the Malay Peninsula, had with him relics and curios from his unusual collection. He prefaced his remarks with a discussion of professional engineering problems.

SPRINGFIELD DISTRICT

As reported by Secretary Steiniger the 15 members in attendance voted $10 to the Y.M.C.A. Foreign Service Fund, decided to send Christmas cards to members in the armed services and elected the 1944 officers. Capt. J. H. Hughes gave an illustrated lecture on "Infantry Armament and Training."

LAKE ERIE

Past President Galanka reports the election of officers at their regular monthly meeting.

CANTON REGIONAL

Secretary Brong reports that the December dinner meeting had both "colored and musical cheer" before and after the meeting. Three letters from members in the armed service were read and A. T. Jones of the Union Metal Mfg. Co. spoke entertainingly on the subject of "Birth of American Civil Engineering." Mr. Jones has a stock certificate of the Ohio Erie Canal dated 1861.

DAYTON

Secretary Coleman announced that their December meeting would have as a speaker Sgt. Dale Bordner who bailed out and was lost in the jungles of New Guinea.

MAHONING VALLEY

An interesting meeting with 80 persons including the Engineers, their wives and guests was reported by Secretary Stoll. The committee reports were interesting and good. After the election Mr. William Maag, editor of the local paper, gave an extremely interesting talk on wartime conditions in England where he had recently visited. A resolution opposing the Kilgore Bill was adopted.

FRANKLIN COUNTY

From the Columbus Engineer we read, "Our December meeting was highlighted by a very interesting talk on Engineering Education by Dean C. E. MacQuigg of the Ohio State University. The talk was followed by a very interesting discussion. The program was presented by the University Group."

CINCINNATI

We have the annual meeting announcement stating that Prexy Graf and Executive Secretary Larson are coming for a dinner meeting.

N. S. P. E.

Report of the National Society of Professional Engineers Board of Directors and Annual Meeting held at the Jefferson Hotel, St. Louis, Mo., on December 10th and 11th, 1943.

President Simpson's report revealed that Minnesota and Porto Rico societies had affiliated with N. S. P. E. during year; called attention to the fact that the United States civil service regulations with respect to engineering and technical personnel are badly in need of overhauling and strongly recommended that the United States badly needs a federal construction department to handle all federal construction activities with an engineer of cabinet rank at its head.

The treasurer's report showed eleven months revenue to Dec. 8, 1943, of $25,437.97.

The Legislative Committee submitted a report showing progress made throughout the country during 1943. This report will probably appear in the American Engineer soon. Only Montana, New Hampshire and the District of Columbia have no registration laws. The District of Columbia is now in the process of trying to have one enacted. Later the help of all state societies may be needed to create favorable congressional consideration and action.

The report of the Public Relations Committee headed by Engineer J. J. Paine was a thought provoking one. It covered the following subjects:

1. That the various states consider adoption of a "Schedule of Minimum Fees and Salaries" and that the Ohio Society "Schedule" be used as a tentative outline.
2. That the N. S. P. E. assume leadership in labor relations matters with suggestions as to tentative procedure.
3. That the N. S. P. E. formulate and recommend definite policies to consistently improve and defend the interests of the professional engineer.
4. That the N. S. P. E. recommend ways and means for creating in the public mind a favorable and interested attitude towards the professional engineer.

After lunch the following matters were considered at some length.

Discussion of the American Society of Civil Engineers em-

ployment activity. A motion was made and carried that a special committee be appointed to assemble the facts and report back as soon as possible with specific recommendations.

Engineer Arthur Sheridan, editor of The American Engineer, paid a very flattering compliment to the Ohio Society for its fine work in submitting news. He urged that each State Society appoint a contact man to whom the publisher may go for advice relative to contacting prospective advertisers. If one additional half page of advertising can be secured in each state the American Engineer will be in excellent financial condition and this will relieve the N. S. P. E. of a considerable financial responsibility.

The constitutionality of the Illinois Registration Act has been attacked by a taxpayer's suit. The Circuit Court has ruled the Act unconstitutional. The N. S. P. E. authorized if necessary the expenditure of not to exceed $200.00 to assist the Illinois Society to carry this to the Supreme Court.

President elect Nold announced some of his committee chairmen for 1944.

Thirty-seven members at large were approved from states which have no affiliated societies. It is interesting to notice that the entire membership of the Florida Registration Board was included.

At the banquet in the evening Engineer Carl Weber of the Missouri Society functioned as a very clever toastmaster. Engineer Robert Hall Craig, Chairman of the Pennsylvania State Civil Service Commission discussed the subject, "The Engineering Profession Faces Crisis." This was a thought provoking discussion of the present union activities as effecting the engineering profession.

A resolution opposing the Kilgore Bill was passed authorizing the President of N. S. P. E. to take suitable action when the time seemed opportune.

The Minnesota Society submitted a resolution urging favorable support of HR 3328, a bill authorizing employment in private practice for Government projects. This was referred to a committee for study.

A motion was made and carried that a special committee be appointed to investigate and watch efforts that are being made to organize a super-over-all engineering organization.

A resolution was passed favoring the formation of one United State Government centralized construction agency to handle all federal construction with an engineer with cabinet rank at its head.

A few observations might here be in order. The members of the Board of N. S. P. E. are a high grade and conscientious group of engineers and serious consideration was given to all matters presented. The exchange of ideas was mutually valuable. The dues in the Minnesota Society are $17.00 per year. The Texas Society is in the process of a campaign to raise a $12,000.00 budget for 1944 with one of the objectives being the employment of a full time executive secretary at a salary of $4800.00. Ohio was so frequently referred to with favorable comments that Engineer Nold and I were somewhat embarrassed. Your Ohio Director was surprised and pleased to discover that the Washington State Director from Seattle had served in the same Division with him in World War one. Some interesting reminiscences were mutually enjoyed.

J. S. Kennedy,
National Director from Ohio.

Violations

The Violations Committee of the O. S. P. E. reports for the Ohio Engineer that ten cases of alleged violations have been referred to the Violations Committee in 1943.

The Violations Committee has had several conferences with the Society's attorney as to the proper method of handling clear cut violations. Alleged violations which are reported to the Violations Committee are obviously kept confidential until such time as the Violations Committee can dispose of them. However, there is one case that can be called to the members' attention at this time:

A County Engineer entered the Army and appointed his deputy, a non-registered engineer, as acting Engineer.

The state law on the duties of a County Engineer are specific. Furthermore, the law states that the County Engineer must be registered. Each time the Violations Committee gathered evidence on an individual, a new deputy was appointed. The Violations Committee hope to have sufficient evidence for a test case.

May we add that this is but one more instance of the advantage of being registered before the absolute necessity for such registration arrives. The best way for County Engineers to avoid such embarrassing instances as the one noted above would be to appoint only registered men as deputies. We would like to raise the question of whether or not a man lawfully can be called a Deputy County Engineer and not be registered. Section 1083-1 of the Engineer's Registration Act reads in part as follows: "It shall be unlawful for any person to . . . use in connection with his name or otherwise assume use or advertise any title or description tending to convey the impression that he is a professional engineer" . . .

100 Percent Groups

State Highway Engineers in Division No. 6 including members in the Marion, the Franklin County and the Southern Ohio Chapters. (23)

State Highway Engineers in the Central Office Bureau of Maintenance. (10)

Engineers in the Division of Electricity, City of Columbus, Franklin County Chapter. (6)

Note: Send along the name of your group with a list of the names if you can boast of 100 percent membership in the O. S. P. E.

MEMBERSHIP STANDING

December 31, 1943

		1943 M'bship	% Reg. Engrs.	% 1943 1942
1.	Maumee	47	62.7	117.5
2.	Marion	57	56.4	154.1
3.	North Central	74	52.5	194.7
4.	Ohio Northern	31	51.7	344.4
5.	Hocking Valley	40	47.1	105.3
6.	Dayton	111	45.1	138.8
7.	Akron	242	44.3	145.8
8.	Midwestern	45	43.3	104.7
9.	Central Ohio	65	40.9	162.5
10.	Muskingum	20	40.1	166.7
11.	Springfield	38	38.8	97.4
12.	Portsmouth	21	33.3	65.6
13.	East Ohio	32	33.3	266.7
14.	Lake Erie	47	28.1	127.0
15.	Canton Regional	85	27.1	119.7
16.	Franklin Co.	230	26.6	185.5
17.	Miami	26	26.0	162.5
18.	Mahoning Valley	85	25.4	149.1
19.	Southern Ohio	30	25.4	85.7
20.	S. O. S.	19	25.3	190.0
21.	Jefferson	18	25.0	163.6
22.	Toledo	100	23.5	111.1
23.	Cleveland	298	22.2	106.8
24.	Zanesville	23	20.7	287.5
25.	Northeast	25	18.9	131.6
26.	Gallia-J-L	10	17.5	125.0
27.	Cincinnati	116	13.3	107.4

Note: The above computations are not based on the rules for the award of the Membership Trophy.

A few observations show that Maumee retains first place and hits a new high of 62.7%; the first four have passed the 50% mark; only three chapters ended the year with less than 20%; in the last column Ohio Northern, Zanesville and East Ohio have more than doubled in percentage while North Central, S. O. S. and Franklin County are approaching 200 percent; Portsmouth, Southern Ohio and Springfield are the only Chapters who failed to reach 100%.

Notes

Did you notice that the Highway Engineers "100 Percent Group" in the Marion Chapter has expanded to take in the whole of Division 6 with 23 members in three chapters!

PENNSYLVANIA

Harrisburg

Officers 1944

The following slate of officers for 1944 has been recommended by the Committee on Nominations: President, George A. Rahn; Vice-President, Guy R. Johnson; Secretary, Ben Johnson; Treasurer, Edgar A. Weimer, Sr; State Director, Victor J. Snyder.

"Sparks — 1944"

With this issue of Sparks, your editor sings his swan song. As we look back over the past year, some of the issues look a bit sour but the membership has borne with us nobly. We, together with the other chapter members, will thoroughly enjoy the forthcoming editorial change. Adios!

Honor Roll

"Sparks" advises that the following members of the Harrisburg Chapter of the Pennsylvania Society of Professional Engineers are presently in the armed forces:

Major C. Radford Berry
136 Chancellor Street
Charlottesvile, Virginia
Lt. Commander Allen F. Jones
U.S.N.E., Navy 8110
c/o Fleet Post Office
San Francisco, California
Capt. Robert S. Mayo
U.S.M.C. Division P & P
Marine Corps, H.Q.
Washington, D.C.
Capt. George P. Searight
275 Parker Street
Carlisle, Pennsylvania
Lt. (j.g.) Karl B. Wagner
Camp Endicott
Rhode Island
Lt. (j.g.) Frederick L. Morgenthaler, Jr.
California Institute of Technology
Advanced Aeronautic School
Pasadena, California

Pittsburgh Chapter

The following are quoted from the Pittsburph Engineer which arrived just as the material for this issue went to the publisher:

Annual Meeting

If you did not attend the Chapter Annual Meeting you just missed another interesting meeting. You are fortunate in that you have another chance at Mr. Fairman's talk. You may read it in the December Number of the "American Engineer." You are not so fortunate with Mr. Greenly. His talk has not been published to date. We are sorry it has not been. Mr. Greenly's paper was ably delivered by Mr. Smith of the Carnegie-Illinois Steel Corporation, who batted for Mr. Greenly due to an unavoidable previous commitment.

State Registration Board

Three new appointments have been made to the State Registration Board for Professional Engineers by Governor Martin. They are Engineer Carroll R. Thompson, C. E. of Philadelphia; Engineer William H. Lesser, M.E. of Scranton and Engineer Edgar Dow Sibley, E.E. of Reading. These with Engineer George S. Richardson, C.E. of Pittsburgh and Engineer Andrew B. Crichton, Mining of Johnstown make up the Board. Engineer Richardson is President of the Board.

Committee Chairmen for 1944

The following were appointed chairman of committees by the president and approved by the Board of Direction on January 6, 1944:

Administrative — David Camilli
Auditing — Ed Croak
Bargaining — John J. Murray
Ethics & Practice — Bennett Gordon
Membership — John W. Brown
Post War Planning — Charles A. Finley
Publications — Roswell Canfield
Remuneration & Classification — Harold P. Medley
Public Relations — F. G. Ross

WASHINGTON

Society Urges Alaskan Route

One of the most interesting and progressive actions by any Society is the approval by the state progressional organization of Washington of an important highway proposal.

Contending that the much discussed Alaskan (Alcan) Highway does not provide for the area west of the great mountain range that separates the West Coast from the route traversed by the said Highway, the Washington Society has prepared a map containing recommendations for supplementing the usefulness of the present U. S. - Canada - Alaska Artery. See next page.

Society Objectives

Because of the problems arising from unionizing activities, both from labor and one technical source, the Washington Society is alert to the reactions arising from the economic as well as the professional aspirations of the engineer in the Northwest. As is the case with all professional engineering organizations, it is able to represent the professional engineer in any matter social, economic or professional that may arise. Its objectives are reprinted herewith:

1. To advance and protect the public welfare and the economic and professional interests of the Engineer, individually and collectively, through united effort, legislation and public relations.
2. To organize, cooperate, unite and extend the activities of our State Society and the County Chapters of Professional Engineers.
3. To strengthen, unify, extend and assist in enforcing State legislation protecting the public welfare, the practice of engineering and the designation "Engineer."
4. To protect the engineer against exploitation, unprofessional competition, unlawful encroachment and restriction of rights of practice.
5. To improve conditions of employment and methods of engaging engineering services.
6. To wage a militant campaign for more adequate compensation for engineering services.
7. To extend employment service and build up a reserve fund for assisting engineers.
8. To encourage and guide student engineers and engineering assistants.
9. To promote cooperation and fraternal relations within the profession.
10. To conduct a planned campaign for the advancement of the Engineering Profession in public recognition, confidence and esteem.

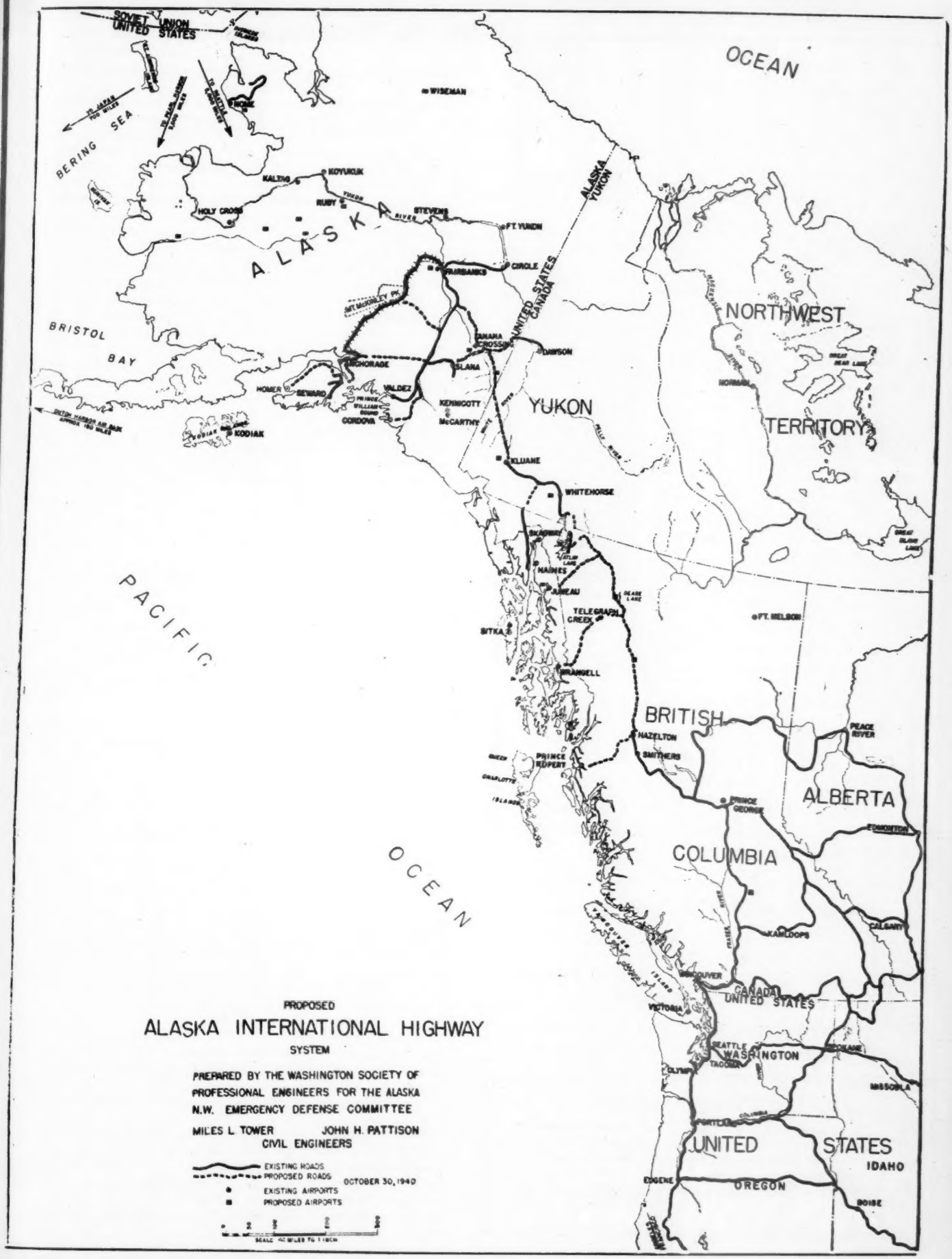
WEST VIRGINIA

Officers for 1944

Following are the new officers of the West Virginia Society of Professional Engineers:

President: W. S. Downs, College of Engineering, West Virginia University, Morgantown, West Virginia; Secretary: Ross B. Johnston, Box 249, Charleston, West Virginia; National Director: T. J. Jackson, 1203 Augusta Street, Bluefield, West Virginia.

Other Societies are invited to note the above.


SOVIET UNION
UNITED STATES
BERING SEA
OCEAN
WISEMAN
KOYUKUK
KALTAG
HOLY CROSS
RUBY
STEVENS
FT. YUKON
ALASKA
FAIRBANKS
CIRCLE
ALASKA YUKON
UNITED STATES
CANADA
NORTHWEST
TERRITORY
BRISTOL BAY
MT. McKINLEY
TANANA CROSSING
DAWSON
ANCHORAGE
SUSITNA
HOMER
SEWARD
VALDEZ
KENNICOTT
McCARTHY
CORDOVA
YUKON
KODIAK
KLUANE
WHITEHORSE
SKAGWAY
HAINES
JUNEAU
TELEGRAPH CREEK
FT. NELSON
SITKA
WRANGELL
PACIFIC
OCEAN
BRITISH
HAZELTON
SMITHERS
PRINCE RUPERT
PEACE RIVER
PRINCE GEORGE
ALBERTA
COLUMBIA
KAMLOOPS
CALGARY
VANCOUVER
VICTORIA
CANADA
UNITED STATES
SEATTLE
WASHINGTON
SPOKANE
MISSOULA
UNITED
STATES
IDAHO
EUGENE
OREGON
BOISE
PROPOSED
ALASKA INTERNATIONAL HIGHWAY
SYSTEM
PREPARED BY THE WASHINGTON SOCIETY OF
PROFESSIONAL ENGINEERS FOR THE ALASKA
N.W. EMERGENCY DEFENSE COMMITTEE
MILES L. TOWER JOHN H. PATTISON
CIVIL ENGINEERS
EXISTING ROADS
PROPOSED ROADS
EXISTING AIRPORTS
PROPOSED AIRPORTS
OCTOBER 30, 1940

INSTANT RESPONSE TO YOUR TOUCH

Not quite "the world at your fingertips" but certainly a new servant with every filling of your pen or brush. The pen may be mightier than the sword but to stay mightier than your pen, always fill it with Higgins Ink . . . you're "master" with Higgins "instant response to your touch." *Send for a color card.*

HIGGINS *INK CO., INC.*
271 NINTH STREET, BROOKLYN 15, N.Y.

The International Standard Since 1880

AEROFIN
CORPORATION
SYRACUSE *NEW YORK*

KENNEDY-RIEGGER DRILLING CO., Inc.
Diamond Drill & Core Borings
TEST BORINGS
5418 Post Road New York City
Telephone KI 9-8458

USED EQUIPMENT
When you need the services of a reliable, substantial and experienced firm thru which to dispose of your idle or surplus equipment. Or when you want to locate some good used items, contact
MISSISSIPPI VALLEY EQUIPMENT CO.
509 Locust St. St. Louis, Mo.

Why The Professional Engineer

(*Continued from Page* 8)

My list is not your list. You will want to add many others.

The Future

Can we continue the progress of the last ten years indefinitely, or can we close the Patent Office because invention is over? Our answer is that research and the genius of engineering will continue to produce new devices, new processes, and new things, as long as they are needed. We have mechanized the world. We have constructed more railroads than we need. We have produced more manufacturing establishments than are needed to satisfy our wants. We have developed power equivalent to one hundred servants for each person, and we send messages instantaneously. Is there any future achievement in store?

A new day is dawning. Someone must find new useful things to produce? In this new day dare we assume the statesmanship of industry? In the past, we have been willing to produce, and let others exploit our products. The exploitation has not benefited the engineering profession and, in many instatnces, has not benefited the public at large. Should the engineer apply the same unselfish devotion to the task of distribution that he has applied to the production, he will have added his part to the solution of our economic dilemma. We have created; we must take responsibility for our creations.

Protecting Our Good Name

I wish I were eloquent enough to proclaim throughout the land Dr. Steinman's views on protecting our name. Forty-eight states and possessions are doing it, some hesitatingly, some well and some very well. It can be done only when the Engineers in each community throughout the land assume responsibility, co-operate, and insist on protection. Under the police power of the State, Public Health and Public Safety may be protected. Most assuredly the practice of engineering falls in this category.

The Supreme Court of Tennessee in 1928 stated in its decisions: "It is further ordered, adjudged, and decreed that the actions of the defendants in using the words 'Engineers' and 'Engineering' in their name and upon their stationery are violations of said statute, have no legal right to advertise and hold themselves out by invoices, bills, letterheads, or otherwise as Engineers . . . . The defendants here are not deprived of their property without due process of law. They are not denied the right to continue their business if they continue under a name not calculated to mislead the public. They are not even deprived of their trade name if they see fit to qualify to practice engineering under the statutory provisions. If, however, the practical effect of the decision is to deprive them of their trade name, it is but a loss incident to a valid exercise of the police power of the State."

This experience in Tennessee justifies us in believing that a law to protect the title "Engineer" is as satisfactory as any other device. Our Supreme Court has ruled that we have a right to protect the title and in a decision over four years old ruled that a person has no right to perform the duties ordinarily performed by an engineer and call himself by any other appellation. The Court declared that a man performing the duties of an engineer could not call himself by the name of "Designer" because a designer would not perform the tasks he was undertaking. In this particular case, he was abated from such further activities, as a public nuisance. Other cases more recently might be cited, each and all taking up the misuse of the title "Engineer" either by itself only or compounded.

Conclusion

To repeat, we have a profession we may be proud of. We have an educational background recognized by all. We have a real literature and tradition; we have an achievement beyond Aladdin and his magic lamp; and—we have a future bounded only by the activities of mankind — truly, the Covenant of the Rainbow after the Flood of Sin.

We have learned how to protect our good name and are going about doing it. The public will take us at our own estimate of ourselves. Therefore, as the Apostle Paul did proclaim from the steps of the Castle of Antonia: "I am a citizen of the City of Tarsus in Cilicia, which is no mean City." — —

Let us proclaim to all the world: "I am a Professional Engineer, which is no mean Profession."

WHAT'S NEW

And Coming In The Whirl of Change

(News from industry — gathered by the publisher)

DEVELOPMENTS IN THE FIELD OF METAL POWDERS

By Prof. Gregory J. Comstock
of Stevens Institute

It has become increasingly evident that powder metallurgy presents two distinctly different sets of development possibilities. Each of these possibilities is responsible for a definite type of powder product.

Type I. New and unusual *products* impossible to produce by normal fusion metallurgy.

To date, the more important products of this phase of this art are the hard cemented carbide tool and die materials; porous metal powder bearings; metal powder clutch facings; welding and contact electrode materials and the ductile refractory metals; tungsten, molybdenum and tantalum.

Type II. Articles made from previously available materials (or improvements of them) which can be powder molded more economically than by the normal methods of melting, forming and machining.

Examples of this phase of the art are only beginning to accumulate. At present they are, in a sense, compromise products. That is, they only display strength, density and other physical characteristics sufficient for the specific applications for which they are designed and made. Among these products may be listed numerous automotive, machine and ordnance parts, such as, oil pump gears, bushings, bearings, parts previously made in screw machines, diamond cutting tool mountings, and the like.

A thorough study of these products has been made which includes an examination of the history of their development, as well as the means by which they are currently manufactured and the phenomena involved in their production. It reveals a number of fundamentals which can be used in an evaluation of the possibilities for further metal powder application to industry.

In the fewest possible words, a study of this kind discloses:

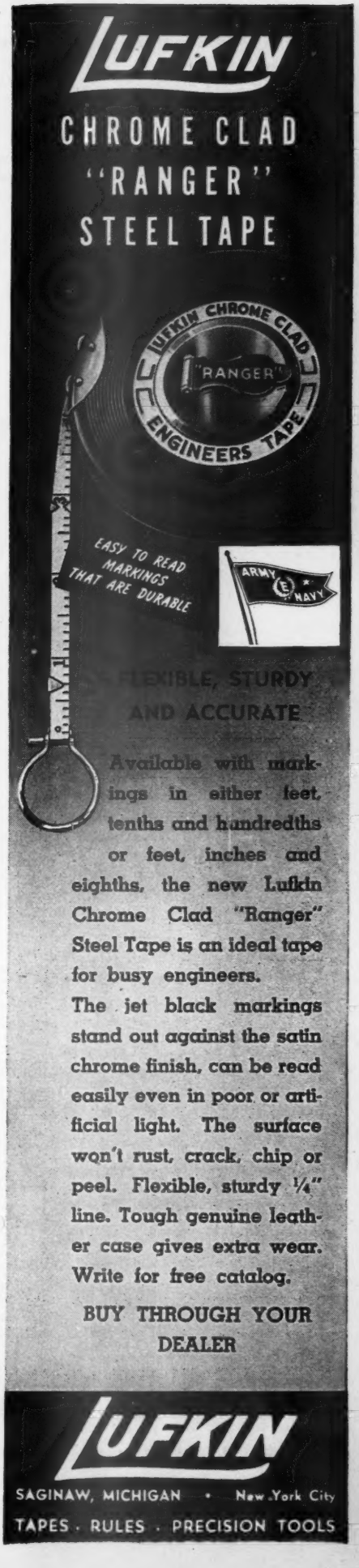
Almost without exception, the discovery and development of those metal powder products possessing special attributes (Type I above) were originated by the electrical industry. It is believed the mass production of ductile tungsten filament wires and the familiarity with metal powder technique and equipment which it engendered is responsible for this.

The development of metal powder articles as a means of eliminating machining operations (Type II above) has been, to date, largely due to the efforts of the automotive industry. The Chrysler, General Motors, and Bound Brook metal powder plants have slowly developed the manufacturing procedure for a variety of porous metal powder parts. From this knowledge, the production fabrication of denser metal powder parts is believed to be generating.

Although the investigation, development and practice of powder metallurgy has in the past been largely confined to these two great industries, this is no longer true. Encouraged by the unusual, and in some cases revolutionary, characteristics of the established special metal powder products, all sorts of manufacturers are now beginning to conduct metal powder research in their own laboratories. Faced with the necessity of making some manner of provision for their post war industrial future, many other companies are investigating the economies of pressing parts from metal powders. The fact that a portion of research costs can be deducted from taxes, is doubtless another incentive to such action. An increasing number of technical schools and colleges are doing all that is possible to train men to assist in this work.

Certain metal powder products have now become definitely established and play an indispensable part in industry. Tungsten filaments, hard cemented carbides, porous bearings, electrode and contact materials are so situated. Other metal powder materials may be said to be on the way to such a position. Metal powder clutch facings, powder screens and filters, Babbitt impregnated porous powder bearings and a long list of semi-porous compromise products for special applications are definitely in such a transition stage. A rather accurate estimate of the tonnage of metal powder parts made in this country in 1941 sets the figure at seven thousand tons.

At first, the raw materials for this art were pure metals in powder form. These were and are being produced by a variety of means, chief among which are electrolysis, reduction (both solid and gaseous), atomization and mechanical subdivision in the liquid or solid state. Iron powder molding in this country was established by the importation of a cheap sponge iron powder from Sweden. This was a direct ore product. In general, the cost of such powders is ingot price plus one third. Alloy powders are now required for the Type II processes mentioned above. Sev-


LUFKIN
CHROME CLAD
"RANGER"
STEEL TAPE
LUFKIN CHROME CLAD
"RANGER"
ENGINEERS TAPE
EASY TO READ MARKINGS THAT ARE DURABLE
ARMY E NAVY
FLEXIBLE, STURDY AND ACCURATE
Available with markings in either feet, tenths and hundredths or feet, inches and eighths, the new Lufkin Chrome Clad "Ranger" Steel Tape is an ideal tape for busy engineers.
The jet black markings stand out against the satin chrome finish, can be read easily even in poor or artificial light. The surface won't rust, crack, chip or peel. Flexible, sturdy ¼" line. Tough genuine leather case gives extra wear. Write for free catalog.
BUY THROUGH YOUR DEALER
LUFKIN
SAGINAW, MICHIGAN • New York City
TAPES · RULES · PRECISION TOOLS

eral large interests have independently undertaken the manufacture of alloy powders with what appears to be reasonable economic chances for success. The development of furnaces, atmosphere generating equipment and presses are being promoted by industrial leaders in each of these fields. Their progress is believed to be systematically adequate. No *permanent* shortage, either of raw materials or manufacturing equipment, is anticipated.

There are two generic production methods for manufacturing metal powder products. These are:

1. The cold press process. In this practice the powders are briquetted at room temperature and are then subjected to consolidating heat treatment, usually in a controlled atmosphere. Subsequent hot or cold deformation with intermittent heat treatments increases density, strength, and ductility until, as in the case of tungsten, exceedingly great strength in tension results. This was the first method of processing to be applied commercially to metal powders. It is therefore far better understood at present than the hot press method, which is the second process, and is certainly less surrounded with mechanical and thermal difficulties. As metal powders and metal powder products become more complex, however, or as larger bodies are required, the cold press process requires larger and larger presses and imposes increasingly greater wear on the molds in which the powders are formed to shape.

2. The hot press process. In this method, loose powders or lightly pressed powder preforms are pressed and heated simultaneously. This process still requires a large amount of development before its general commercial application can be consummated. Hot pressed powders are, however, characteristically denser, stronger, more ductile and closer to size and shape than those produced by a single cold pressing and sintering heat treatment. If hot pressing is conducted within selected temperature ranges, the pressures involved are usually not great, but ordinarily one tenth (or less) of that required for the same materials pressed cold. Two general types of electrical heating are available for this type of pressing, i. e., resistance and induction. Intensive development of hot pressing equipment is now in progress under conditions which are believed to be adequate. There is, of course, the possibility that a combination of the cold and hot press processes can be effected which will retain some of the advantages of each. The hot forging of sintered preforms, now being given a limited commercial application, is a case in point.

There are two general classes of metal powder products.

Class A consists of products in which a molten constituent is formed during the consolidating or sintering heat treatment.

These are, in fact, cemented powder products. Examples of them are the hard cemented carbide tool materials, porous bearings, certain of the electrode materials, metal powder clutch facings, iron plus copper articles, etc. They are characteristically strong and dense; display the individual properties of their components in proportion to their presence in the aggregate; but are limited by the necessity for always having present a large unmelted proportion of their total composition. For obvious reasons this class does not lend itself in general to hot pressing.

Class B consists of metal powder compositions which do not form a liquid cement during sintering.

These materials depend upon particle to particle surface welding or adhesion for their strength and density. Class B products do not equal the strength and density of cast and worked fusion products as a result of a single pressing and sintering operation if these steps are separately applied. If high strength, density, and more especially ductility, are to be obtained, repeated hot working or cold working with intermittent heat treatments are normally required. Single pressing and sintering are, however, adequate for many compromise

FRIDĒN . . . High-Speed Automatic Calculators,

offer the solution of the problems in business today, created by the critical shortage of competent clerical help. FRIDĒN FULLY-AUTOMATIC CALCULATORS are available when the applications to obtain deliveries have been approved by the War Production Board. Telephone your local Fridēn Representative for information.

Fridēn Mechanical and Instructional Service is available in approximately 250 Company controlled Sales Agencies throughout the United States and Canada.

FRIDĒN CALCULATING MACHINE CO., INC.

EXECUTIVE OFFICES AND PLANT • SAN LEANDRO, CALIFORNIA, U. S. A.

products, such as, oil pump gears, where a limited porosity is not objectionable. It is, nevertheless, becoming quite obvious that the necessity for multiple working of Class B products is a limiting factor in eliminating machining operations, if the cold press practice is to be applied where high physicals are required. Examples of Class B materials are porous iron powder parts, semi-porous steel powder parts and the refractory metals; tungsten, molybdenum and tantalum.

From these facts, it appears that the following conclusions can be made conservatively.

Established metal powder products give positive indications that metal powder manipulations offer extremely good possibilities for developing new and unusual materials.

Certain partially established products indicate that metal powder manipulations offer encouraging possibilities for instituting material manufacturing economies. While the present molded products may be suitable for specific applications only, a study of powder practices and a generic typing of metal powder materials affords considerable evidence that eventually molded powder parts can be made which will be entirely comparable to those previously produced by melting, forming and machining.

A study of the mechanics involved in the production of metal powder materials indicates that the further development of cemented powder products, alloy powders and hot press methods is required for the fullest application of industrial powder metallurgy.

From the broadest possible view, it seems indicated that industrial metal powder molding is in an extremely interesting transition state of partial development. It is probably that this stage of its development is comparable to that of the synthetic resins and their associated materials some fifteen or twenty years ago.

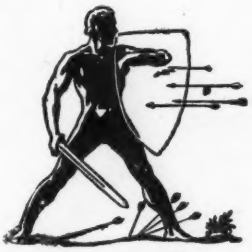
Buy War Bonds!

Bonds are essential

"It is clear that when the bond requirement is waived, labor and material men, as well as the Government, lose a form of protection which they have enjoyed for almost half a century."

From an article entitled:

"Restoration of Bond Requirements Will Aid War Effort" by Edward H. Cushman of the Philadelphia and District of Columbia Bars, appearing in "Credit and Financial Management" for April, 1943—*A reprint in pamphlet form will be mailed without cost on request to*



INVISIBLE ARMOR

NATIONAL SURETY CORPORATION

VINCENT CULLEN, *President*

4 ALBANY STREET, NEW YORK

If It's Made—Ask ALBERT!

FOR IMMEDIATE DELIVERY

Odd and Large Sizes a Specialty—⅛" to 72"

LARGEST AND MOST COMPLETE STOCK on Atlantic Seaboard

- **PIPE**
  - Electric Weld
  - Seamless
  - Spiral Weld
  - Lap Weld
  - Butt Weld
  - Steel—Wrought Iron
  - Shore-Dredge
- **VALVES**
  - Iron Body
  - Forged Steel
  - Cast Steel and Special Alloys
- **FITTINGS**
  - Welding
  - Tube Turns
  - Fabricated
  - Cast Iron
  - Forged Steel
  - Cast Steel Dresser
  - Malleable Victaulic
- **PILING**
  - ARMCO
  - Youngstown

  Points
  Sleeves
  all Specifications

Shop Facilities for Threading Large O.D. Pipe

ALSO RECONDITIONED PIPE—VALVES—FITTINGS FOR TEMPORARY SERVICE

ALBERT PIPE SUPPLY CO., Inc.

No. 13th at Berry Street, Brooklyn, N. Y. EVergreen 7-8100

Power Piping Fabrication by Electric and Acetylene Welding

THE WIESNER-RAPP Co., Inc.

212 WINCHESTER AVE. BUFFALO, N. Y.

DESIGNERS — METAL FABRICATORS — ENGINEERS

Specializing in the

Design and Construction of

WELDED FABRICATIONS

From Ferrous

and Non-Ferrous Metals and Alloys

The Anchor Packing Company

Pump Valves **Asbestos Products**

Mechanical Rubber Goods

Tauril **Hydroil**

100 SIXTH AVENUE

(Near Canal Street) New York, N. Y.

EMPIRE STATE LABORATORIES

Designers — Constructors

AUTOMATIC MACHINERY

ELECTRO-MECHANICAL DEVICES

PRECISION MECHANISMS

161 MAIDEN LANE NEW YORK CITY

Battleship Liquid Asbestos Roof Coating will weatherproof your roof for seven years.

More than one billion dollars of property already protected.

Largest corporations among our satisfied customers.

Southern Arizona Molybdenum Corporation

151 WATER STREET, NEW YORK CITY 5

WH 4-2885

By all comparisons the most

ECONOMICAL EXCAVATING TOOL

In use throughout the world, American steel dredges, both hydraulic and dipper types, do jobs faster — and at less cost. Exclusive sectional hulls permit overland moves. Each dredge built to customer's specifications.

OUR ENGINEERS are at your service on any problem.

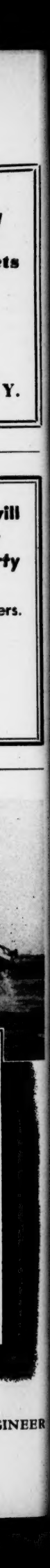
WE DESIGN & MANUFACTURE

5 types of Steel Dredges, Steel Barges, Lighters, Tug Boats, Steel Hulls, Work Boats.

OUR CUSTOM DEPARTMENT

is producing steel plate fabricated precision parts, engine bases, difficult shapes, tanks, pipe and bends. Special precision welding. Custom heat-treating and stress relieving.

AMERICAN STEEL DREDGE COMPANY, INC.

DESIGNERS and MANUFACTURERS

FORT WAYNE 1, INDIANA **U. S. A.**